

THE JOURNAL

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

VOL. 35

APRIL, 1936

No. 4

PERICARDITIS COMPLICATING SUBACUTE BACTERIAL ENDOCARDITIS

WILLARD D. MAYER, M.D.†
DETROIT, MICHIGAN

Subacute bacterial endocarditis is neither a rare nor unusual clinical condition and a voluminous literature has arisen regarding this entity since the original articles of Libman were first published. However, a rather remarkable and interesting phenomenon occurs in connection with this disease, that has always been a source of interest, in that with an evident general infection by non-hemolytic streptococci circulating actively in the blood stream, with at times numerous emboli lodging in various sites, secondary abscess formation practically never occurs. This same organism (non-hemolytic streptococci) can and does cause many septic phenomena, as, for example, acute otitis media with secondary mastoid infection, lateral sinus thrombosis, postpartum infection, etc. Yet in a condition with the chief source of circulatory activity, the heart, involved and apparently the center from which infective emboli originate and are scattered rather promiscuously throughout the body, one rarely sees anything suggestive of pus formation. Some writers state that this is due to the low virulence of the germ involved, which may be a factor; however, this germ in association with subacute bacterial endocarditis nearly always causes death, and, further, it seems to resist any and all forms of sero, and chemotherapy that have been devised to attempt a cure. It has been suggested that the germs are in too few numbers to cause breaking down of tissues and abscess formation, and likewise that the emboli in themselves are sterile. However, at autopsy it is a common procedure to isolate non-hemolytic streptococci from cultures made directly from the vegetations upon the heart valves.

and it is portions of these same vegetations which can and do constitute the emboli.

In the event that some purulent condition is found in connection with subacute bacterial endocarditis, there is generally some other factor, as secondary invasion of the blood stream by some other organism or some co-existing lesion which in itself can have a purulent complication.

The case which I wish to report in detail with autopsy findings, presented upon admission, the usual findings of subacute bacterial endocarditis and later developed nephritis with terminal uremia and pericarditis with effusion. There were physical signs of pneumonia at the left base which I believe were due to compression of the lung by the distended pericardial sac. It is regretted that cultures and smears were not made of the pericardial effusion and that studies were not made in an attempt to reveal its exact composition; however, Gram stains made from the pericardium disclosed Gram-positive cocci and a few Gram-negative short chains.

†Dr. Mayer is Associate Professor of Clinical Medicine, Wayne University; Associate Attending Physician, Harper Hospital; Attending Physician, Detroit Receiving Hospital.

Case Report

J. G., female, white, aged thirty-eight, was admitted to Detroit Receiving Hospital, July 16, 1933. Expired August 5, 1933.

This patient was admitted to the hospital complaining of chills and fever of six weeks' duration, during which time she had an average of two chills

per day. There was anisocytosis and poikilocytosis. The total N.P.N. on admission was 33.3, blood sugar 72. On August 4, 1933, the day before death, total N.P.N. was 200 mgs.; urea 295.6; uric acid 11.4; creatinine 4.5. On August 5, N.P.N. was 200 mgs.; urea 410; uric acid 13.3; creatinine 5.2, platelet count, 371,200.



Fig. 1. Extensive masses of friable vegetations upon the aortic valves.



Fig. 2. The shaggy appearance of the heart is due to the marked fibrinous pericarditis.

per day. There was a loss of 10 pounds in weight. At the age of fourteen years she had a severe attack of scarlet fever and rheumatic fever. There were frequent sore throats until six years ago, at which time her tonsils were removed. Six months prior to admission she had swelling of the ankles. During her stay in the hospital she ran an irregular temperature varying from 99 degrees to 105.4 degrees. In addition she had severe chills.

On physical examination the patient was found to be acutely ill, the skin was of a cafe au lait color approaching brown. Definite petechiae were seen in the left lower conjunctival sac. Tonsils had been well removed. Teeth in fair condition. The heart was enlarged, the left border being in the anterior axillary line and the right border at the right margin of the sternum. At the apex were heard a presystolic and systolic murmur, the latter being transmitted to the axilla. A systolic murmur was also heard over the aortic and pulmonic areas. Along the left border of the sternum in the fourth interspace there was definite loud pericardial friction rub. There was impaired resonance over the left base with diminished breath sounds. Subsequently bronchial breathing was heard over this area. Blood pressure was 106/72.

The spleen was not palpable nor did it percuss enlarged. The knee jerks were present. There were no tender nodules on the toes nor finger tips. The joints were neither painful nor swollen.

The patient became profoundly ill. The pericardial friction rub persisted. Fresh petechiae appeared and three days before death the patient became unconscious.

Laboratory examinations.—Urine: Sp. Gr. 1015. Albumin—trace. Sugar—negative. Microscopic—a few leukocytes. Occasional erythrocytes.

Blood Cytology: Hgb. 5.6 gms., R.B.C. 2,490,000, W.B.C. 27,700.

Polys. Nonfil. 6, Polys. Fil. 87, Baso. 1, Lympho. 5.

Kolmer and Kahn tests gave negative findings.

Blood culture made July 21, 1933, showed a non-hemolytic streptococcus.

A portable x-ray examination of the chest made on August 3 showed marked generalized enlargement of the cardiac shadow suggesting a double mitral type of heart although pericardial effusion could not be ruled radiographically as a portable picture in the prone position was taken.

(Signed) DR. KENNING.

Electrocardiograph made July 26, 1933, showed sinus tachycardia and slight right ventricular preponderance.

The clinical diagnosis was: (1) Subacute bacterial endocarditis; (2) pericarditis with effusion; (3) terminal uremia.

Autopsy report was as follows:

External appearance: Subject is a normally developed but emaciated, middle-aged, adult, white female. There is a brownish tint to the skin and many petechiae, the largest being 1 mm., and are scattered over the neck and trunk.

Thoracic cavity:

The left lung lies free in the pleural cavity. The upper lobe is grossly normal but the lower lobe is non-air containing. It is firm and congested. The right lung shows a few recent adhesions in the apex and is grossly normal. The pericardial sac is distended with 850 c.c. of brown fluid. The heart is enlarged and presents a shaggy appearance of fibrinous pericarditis. It weighs 460 grams. The aortic valve measures 8.5 cm. The cusps are markedly thickened and sclerosed. Extending around the base of the valves is a mass of friable vegetations, 1 cm. wide. The mitral valve measures 7 cm. and shows evidence of sclerosis, especially marked in one area. The pulmonic valve appears normal except for one small vegetation about 2 mm. in diameter. The tricuspid valve measures 11 cm. and appears

normal. The left ventricle measures from 15 to 20 mm. in thickness. The right ventricle measures from 7 to 10 mm. The coronary vessels are normal. The aorta presents a few whitish plaques but is otherwise normal.

Abdominal cavity:

The liver is of normal size and on section shows chronic passive congestion. The spleen is normal in size and shows multiple small infarcts. The kidneys appear slightly smaller than normal and on section the cortex is pale. One kidney reveals an infarct, about 1 cm. in size. The pancreas is grossly normal. The uterus is small and firm. A small cyst, about 1.5 cm. in diameter is felt on the right ovary. The left ovary is normal on palpation.

Gross summary:

1. Acute vegetative endocarditis of the aortic and pulmonic leaflets.
2. Old rheumatic deforming valvulitis of the aortic and mitral valves (Aortic Stenosis).
3. Fibrinous pericarditis with effusion.

DUNCAN A. CAMERON, M.D.,
Resident in Pathology.

Microscopic examination gave the following findings:

Heart: There are many small areas of perivascular nodular aggregations of lymphoid and endothelial cells. There are small areas of fibrous tissue replacement about the blood vessels.

Lung: The alveoli are filled with a fibropurulent exudate.

Aorta: There is a fibropurulent exudate over the pericardial covering of the aorta.

Aortic Valve: There is a considerable inflammatory cell infiltration, the cells consisting chiefly of mononuclears. There is a necrotic debris, fibrin and colonies of organisms deposited upon the valve and throughout this deposition there is an inflammatory cell infiltration.

Mitral Valve: Mitral valve showed old rheumatic valvulitis.

Liver: There is a rather marked degree of chronic passive congestion.

Kidney: Several small vessels contain emboli. There is also an area of infarction with many small abscesses within the necrotic tissue.

Spleen: There are small areas of infarction with emboli and beginning necrosis of the pulp. Gram stains show huge colonies of cocci in clumps.

Final Diagnosis: (1) Subacute vegetative aortic and pulmonic endocarditis, (2) old rheumatic deforming valvulitis of the aortic and mitral valves (aortic stenosis); (3) subacute to chronic rheumatic fibrinopurulent pericarditis with effusion.

OBSORNE A. BRINES, M.D.,
Pathologist.

Libman³ states:

"Pericarditis is not a part of the clinical picture. It might well occur as the result of the presence of pneumonia or some other complication, or it might represent a mixed infection with rheumatic fever."

Blumer¹ in a review of 150 cases of subacute bacterial endocarditis states:

"The pericardium does not, as a rule, show marked lesions. Obliteration of the pericardial sac is recorded in 3.3 per cent of the autopsies, and an equal percentage shows varying degrees of hydropericardium. Subpericardial echymoses are common, and acute or subacute pericarditis is noted in 4.6 per cent of the records."

"The rôle of infection, other than the original

sepsis, is not a striking one in subacute bacterial endocarditis. Nevertheless it is interesting to note that lesions denoting secondary infection are by no means unknown. Terminal bronchopneumonia is noted twelve times in the 150 autopsies, and this figure would doubtless have been larger if histological examinations had been made in all cases. Lobar pneumonia is noted three times, pleurisy twelve times, and perihepatitis once. There are also inflammatory lesions which seem clearly to be expressions of the embolic manifestations of the original sepsis, abscesses in the myocardium, abscesses in the lung, abscesses of the liver, acute pericarditis, acute peritonitis, acute meningitis, tracheo-bronchial or intraperitoneal lymphadenitis and subcutaneous abscess. The autopsy bacteriology in most of the recorded cases is unfortunately too incomplete to permit us to say definitely whether the original infection or secondary infection caused these focal lesions. Certainly from clinical experience it is reasonable to assume that in some instances death is due to terminal infection with organisms other than those causing the endocarditis; terminal erysipelas or terminal pneumonia for example. This, of course, might be expected from analogy with other protracted infectious diseases, such as leprosy or tuberculosis, the subjects of which not infrequently succumb to infection with more virulent organisms."

"The striking feature of the embolic manifestations of subacute endocarditis as contrasted with these occurring in the acute form of the disease is the lack of suppuration. However, it is to be noted that in the 150 autopsies septic infarcts or focal abscesses were noted twenty-three times. Among twenty-four instances of pulmonary infarction there were three infarcts that suppurred, in 115 infarcted spleens suppurring infarcts were noted in sixteen, in sixty-four infarcted kidneys suppuration was noted twice and among thirty-five brains showing evidence of embolism two showed abscesses. As mentioned previously there were three instances of abscess in the heart muscle, and one or two instances of localized subcutaneous suppuration. Failure of the emboli in various organs to produce suppuration is, therefore, relative rather than absolute, indeed in certain instances where multiple infarcts were present in an organ some suppurred and others did not. Doubtless the explanation of this lack of suppuration lies chiefly in the low virulence of the infecting organisms, but it may be due in part to the very small number of organisms present in some emboli and in part to individual peculiarities of tissue resistance. Letulle's suggestion that we should speak of pyogenic individuals rather than pyogenic organisms, while perhaps an exaggeration, contains at least some elements of truth."

Thayer⁵ mentions "the striking rarity of pericarditis in streptococcal endocarditis, a point of considerable diagnostic significance. In the subacute series, pericarditis was observed in but 5.8 per cent." In contrast to this figure he mentions acute fibrinous pericarditis occurring in 60 per cent of the cases of acute rheumatic fever.

Ophüls,⁴ in a study of forty-seven cases of subacute ulcerative endocarditis, found acute pericarditis in nine cases; it was suppurative in five and fibrinous in four cases. It is assumed that this writer refers to the subacute bacterial group.

De la Chapelle and Graef² describe a case,

the findings of which closely resemble those in the case which we have described. Their patient developed paroxysmal flutter during the active stage of subacute bacterial endocarditis, persistent and almost uncontrollable epistaxis, and finally diffuse glomerulonephritis, with absolute renal insufficiency causing death from uremia, and in association with acute serofibrinous pericarditis as a terminal event. The authors can find no proof in this case that the pericarditis was caused by the streptococcus viridans, nor can they deny that it might have been. They state that acute pericarditis is so rare in this form of endocarditis that its association with uremia seems to point to the latter as the more logical cause.

In this case they mention the occurrence of a fresh patchy lobular pneumonia and mention the possibility that the pericarditis might be related to the chest complication. This, however, they consider to be remote. They prefer to believe that the pericarditis described in this case was on a uremic basis.

Summary

1. A case is presented of subacute bacterial endocarditis, complicated by pericarditis with effusion.
2. Comment is made as to the possible etiology of pericarditis in subacute bacterial endocarditis.
3. The rarity of purulent complications in subacute bacterial endocarditis is stressed.

My thanks for valued suggestions in the preparation of this paper are expressed to Dr. E. Libman of New York City, Drs. Flinn P. Morse and Osborne A. Brines of Detroit.

510 Kresge Building.

References

1. Blumer, G.: Subacute bacterial endocarditis. *Medicine*, 2:105-170, 1923 (pages 111, 114 and 116).
2. De la Chapelle, C. E., and Graef, I.: Two unusual cases of subacute bacterial endocarditis. *Med. Clin. North America*, 14:1335-1358, 1931.
3. Libman, E.: Characterization of various forms of endocarditis. *Jour. A. M. A.*, 80:813-818, 1923 (page 815).
4. Ophüls, W.: Statistical Survey of 3,000 Autopsies. Stanford Univ. Press, 1926 (pages 198 and 209).
5. Thayer, W. S.: Bacterial or infective endocarditis. *Edinburgh Med. Jour.*, 38:237-265; 307-334, 1931.

A PRESENTATION OF CASES OF PANCREATITIS*

EDGAR C. LONG, M.D., M.S.†

DETROIT, MICHIGAN

The subject of pancreatitis is receiving more and more consideration in the literature. We are presenting seventy-one cases of pancreatitis which were admitted to Detroit Receiving Hospital, Detroit, Michigan, in the past nine years.

As shown in Table I, there were thirty-one cases of acute and forty cases of chronic pancreatitis. The clinical diagnosis of pancreatitis (either acute or chronic) was not accepted unless the diagnosis was verified on the operating room or post mortem room table.

Table II shows the race and sex distribution of the cases of acute pancreatitis. Sixty-one per cent of the cases occurred in males. This figure is at variance with the sex distribution of most of the series of pancreatitis cases that have been so far presented. In other series pancreatitis has had a greater incidence in females.

TABLE I. CASES STUDIED

Total cases of acute pancreatitis studied.....	31
Total cases of chronic pancreatitis studied.....	40
Total cases studied.....	71

*From the Surgery Service of the Detroit Receiving Hospital.

†Dr. Long is a graduate of Wayne University College of Medicine (1930). He was an interne at the Detroit Receiving Hospital (1930-31) and served as Resident in Pathology (1931-32), and Resident in Surgery (1932-35) at the Detroit Receiving Hospital. He received the degree of Master of Science in Surgery from Wayne University in 1935. He is now Junior Attending Surgeon at Mercy Hospital, Monroe, Michigan.

Sixty-four per cent of the patients were in the fourth and fifth decades (Table III).

TABLE II. RACE AND SEX DISTRIBUTION OF CASES OF ACUTE PANCREATITIS

	No. cases	Per cent
White male	17	54.8
White female	10	32.2
Negro male	2	6.4
Negro female	2	6.4

TABLE III. AGE DISTRIBUTION OF CASES OF ACUTE PANCREATITIS

Age	No. cases	Per cent
20 to 29 years.....	3	9.6
30 to 39 years.....	10	32.2
40 to 49 years.....	10	32.2
50 to 59 years.....	2	6.4
60 to 69 years.....	5	16.1
70 to 79 years.....	1	3.2

JOUR. M.S.M.S.

PANCREATITIS—LONG

This age incidence follows very closely the age incidence of gall-bladder disease. The youngest case was that of a twenty-four year old negress, while the oldest was a seventy-seven year old white man.

TABLE IV. CHIEF COMPLAINT AS GIVEN IN THIRTY-ONE CASES OF ACUTE PANCREATITIS

Epigastric pain	18 cases
Coma	4 cases
Upper right quadrant pain.....	2 cases
Abdominal pain (generalized).....	2 cases
Umbilical pain.....	2 cases
Nausea and vomiting	1 case
Hiccough	1 case
Not obtainable	1 case

TABLE V. ASSOCIATED COMPLAINTS AS GIVEN IN THIRTY-ONE CASES OF ACUTE PANCREATITIS

Nausea and vomiting.....	22 cases
Constipation	5 cases
Diabetes mellitus	3 cases
Jaundice	3 cases
Hiccough	3 cases
Idiosyncrasy to fried and fatty foods.....	4 cases
Indigestion	1 case
Eructations	1 case
Dyspnea	1 case
Chronic alcoholism	1 case

Epigastric pain was the chief complaint in the largest number of cases (Table IV), being found in eighteen of the thirty-one cases studied. The associated complaint of nausea and vomiting (Table V) was most predominant; however, constipation, idiosyncrasy to fried and fatty foods, diabetes mellitus, jaundice and hiccough were also noteworthy as associated complaints.

TABLE VI. DURATION OF SYMPTOMS IN THIRTY-ONE CASES OF ACUTE PANCREATITIS

12 hours or less.....	3 cases
13 to 24 hours.....	5 cases
25 to 48 hours.....	3 cases
48 hours to 1 week.....	7 cases
1 week to 1 month.....	2 cases
Several months	4 cases
Several years	2 cases
Not obtainable	5 cases

The duration of symptoms (Table VI) varied widely in this series from a few hours to several years. In the cases in which the symptoms had lasted for more than forty-eight hours the onset of the acute illness had been so gradual as to escape the notice of the patients.

The physical findings of abdominal tenderness (either epigastric or generalized)

and abdominal distension were most important (Table VII), although shock and jaundice were occasionally found.

TABLE VII. PHYSICAL FINDINGS IN THIRTY-ONE CASES OF ACUTE PANCREATITIS

Tenderness and rigidity in epigastrium.....	9 cases
Abdominal tenderness (generalized).....	7 cases
Abdominal distension (slight).....	6 cases
Abdominal distension (marked).....	5 cases
Tenderness and rigidity in epigastrium and right hypochondrium	4 cases
Shock	4 cases
Kussmaul breathing	4 cases
Icterus	3 cases
Tenderness in right hypochondrium.....	2 cases
Tenderness in right and left hypochondrium	1 case
Tenderness in epigastrium and left hypochondrium	1 case

TABLE VIII. LABORATORY FINDINGS IN ACUTE PANCREATITIS

A. White blood counts (23 cases)	
4,000 to 10,000 w.b.c.....	7 cases
10,000 to 15,000 w.b.c.....	9 cases
15,000 to 20,000 w.b.c.....	3 cases
20,000 to 30,000 w.b.c.....	3 cases
Over 30,000 w.b.c.....	1 case
B. Urinalyses (19 reported cases)	
Dextrose 3 plus to 4 plus.....	7 cases
Albumin plus to 3 plus.....	11 cases
Negative urine	3 cases
C. Blood dextrose (11 reported cases)	
80 to 120 mgm.....	4 cases
120 to 200 mgm.....	1 case
200 to 300 mgm.....	2 cases
300 to 400 mgm.....	1 case
400 to 500 mgm.....	1 case
500 to 600 mgm.....	2 cases
D. Non-protein nitrogen determination in four cases	
20 to 30 mgm.....	1 case
30 to 40 mgm.....	2 cases
70 to 80 mgm.....	1 case
E. Icterus indices (reported in six cases)	
5 to 15.....	1 case
15 to 30.....	2 cases
30 to 45.....	2 cases
45 to 60.....	1 case
F. Serology (reported in 19 cases)	
Positive	2 cases
Negative	17 cases

No reports were available in this series of the results of recommended tests for pancreatic damage such as the Cambridge, Wohlgemuth and Loewis tests. However, of the routine laboratory examinations (Table VIII), 69 per cent of the reported cases showed a definite leukocytosis. Thirty-six per cent of the urinalyses revealed the presence of dextrose, and albumin was present in 57 per cent. Of the eleven blood sugar determinations reported, 63 per cent showed elevation. Serology was positive in 10 per cent of the cases.

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Fat necrosis was present at operation in 66 per cent of the operated cases (Table X). Enlargement of the pancreas was noted in 46 per cent and the presence of gallstones in 46 per cent.

TABLE IX. CLINICAL DIAGNOSIS IN CASES OF ACUTE PANCREATITIS

Acute pancreatitis	8 cases
Cholecystitis and cholelithiasis.....	7 cases
Perforated peptic ulcer.....	4 cases
Diabetic coma	4 cases
Acute intestinal obstruction.....	2 cases
Alcoholic gastritis	2 cases
Peritonitis	2 cases
Gastroenteritis	2 cases
Portal cirrhosis	1 case

TABLE X. OPERATIVE FINDINGS IN FIFTEEN CASES OF ACUTE PANCREATITIS

	No. cases	Per cent
Fat necrosis	10	66.6
Pancreas enlarged	7	46.6
Gallstones present	7	46.6
Sanguinous fluid present.....	3	20.0
Retroperitoneal hemorrhage	2	13.3
Gastric ulcer	1	6.6

The operative procedure of choice was cholecystostomy and drainage of the abdomen (Table XI). All the operative procedures resulted in a high mortality.

TABLE XI. OPERATIVE PROCEDURE AND RESULT IN ACUTE PANCREATITIS

	Cases	Im- proved	Died	Mortality Per cent
Cholecystostomy and drainage of abdomen	6	1	5	83.3
Drainage of abdomen.	3	0	3	100.0
Incision and drainage of pancreas	2	1	1	50.0
Cholecystectomy and drainage of abdomen	2	1	1	50.0
Cholecystostomy and incision and drainage of pancreas.....	1	0	1	100.0
Jejunostomy	1	0	1	100.0
Total	15	3	12	80.0

TABLE XII. ASSOCIATED PATHOLOGY IN ACUTE PANCREATITIS

Gallstones	8 cases
Chronic interstitial pancreatitis.....	6 cases
Chronic cholecystitis without cholelithiasis	3 cases
Diabetes	3 cases
Annular pancreas with chronic interstitial pancreatitis†	1 case
Ampulla of Vater surrounded by edema...	1 case
Ruptured gastric ulcer.....	1 case
Ruptured duodenal ulcer.....	1 case
Thrombosis of pancreatic vein.....	1 case
Appendiceal abscess	1 case
No associated pathology	8 cases

†Case reported by Dr. Osborne A. Brines, Ann. Surg., 92:241, (Aug.) 1930.

Gall-bladder disease was the most common associated pathology in the thirty-one cases (Table XII). Evidence of previously existing chronic interstitial pancreatitis was seen in six of the cases. However, there were eight cases in which no associated pathology could be found.

TABLE XIII. PATHOLOGICAL CLASSIFICATION OF CASES OF ACUTE PANCREATITIS

Acute hemorrhagic pancreatitis.....	15 cases
Acute pancreatitis	7 cases
Acute suppurative pancreatitis.....	5 cases
Acute pancreatic necrosis.....	3 cases
Abscesses in pancreas.....	1 case

TABLE XIV. MORTALITY IN ACUTE PANCREATITIS

(1) Total mortality	90.3%
Expired: 28 cases	
Improved: 3 cases	
(2) Mortality in 15 operated cases.....	80.0%
Expired: 12 cases	
Improved: 3 cases	
(3) Mortality in 16 unoperated cases.....	100.0%

The mortality of 90.3 per cent (Table XIV) is inexplicably high. The mortality (80.0 per cent) of the fifteen operated cases is only relieved by comparison with the 100 per cent mortality of the sixteen unoperated cases.

TABLE XV. SEX DISTRIBUTION OF CHRONIC PANCREATITIS

Male	23 cases	56.5%
Female	17 cases	42.5%

TABLE XVI. AGE DISTRIBUTION OF CHRONIC PANCREATITIS

Age	No. cases
12 days	1
16 years	2
20 to 29 years.....	9
30 to 39 years.....	4
40 to 49 years.....	9
50 to 59 years.....	9
60 to 69 years.....	6

TABLE XVII. CHIEF COMPLAINTS IN CASES OF CHRONIC PANCREATITIS

Epigastric pain	10 cases
Abdominal pain (generalized).....	4 cases
Dyspnea	4 cases
Coma	3 cases
Chest pain	2 cases
Nausea and vomiting.....	2 cases
Weakness	2 cases
Cough	2 cases
Epigastric pain referred to back.....	1 case
Sore mouth	1 case
Pain in upper right quadrant.....	1 case
Paralysis of both legs.....	1 case
Loss of weight.....	1 case
Lower abdominal pain.....	1 case
Diarrhea	1 case
Constipation	1 case
Bleeding from all body orifices.....	1 case

PANCREATITIS—LONG

Of the forty cases of chronic pancreatitis, twenty-three occurred in males (Table XV). The age distribution varied within much wider limits than acute pancreatitis (Table XVI). The youngest case was that of luetic pancreatitis occurring in a congenital luetic twelve days old.

Epigastric pain (Table XVII) was the chief complaint in chronic pancreatitis as it was in acute pancreatitis. Tenderness in the epigastrium or upper right quadrant, along with abdominal distension, jaundice and liver enlargement were the most prominent physical findings (Table XVIII).

TABLE XVIII. PHYSICAL FINDINGS IN CASES OF CHRONIC PANCREATITIS

Moderate abdominal distension.....	7 cases
Epigastric tenderness	6 cases
Liver enlarged	6 cases
Jaundice	6 cases
Tenderness in upper right quadrant.....	5 cases
Generalized abdominal pain.....	4 cases
Ascites	2 cases
Tenderness in upper right and upper left quadrant	1 case
Tenderness in upper right quadrant referred to epigastrium.....	1 case
Tenderness in upper left quadrant.....	1 case
No abdominal findings.....	13 cases

TABLE XIX. LABORATORY FINDINGS IN CHRONIC PANCREATITIS

A. White blood count (thirty-one cases reported)		
Under 10,000 w.b.c.....	11 cases	
10,000 to 15,000 w.b.c.....	9 cases	
15,000 to 20,000 w.b.c.....	8 cases	
20,000 to 25,000 w.b.c.....	0 cases	
25,000 to 30,000 w.b.c.....	3 cases	
B. Urinalyses (twenty-four cases reported)		
Albumin—1 plus to 4 plus.....	18 cases	
Albumin—negative	6 cases	
Dextrose—1 plus to 4 plus.....	6 cases	
Dextrose—negative	18 cases	
C. Blood dextrose (ten cases reported)		
8 to 120 mgm.....	4 cases	
120 to 200 mgm.....	1 case	
200 to 300 mgm.....	1 case	
300 to 400 mgm.....	2 cases	
400 to 500 mgm.....	2 cases	
D. Non-protein nitrogen determination (five cases)		
20 to 30 mgm.....	2 cases	
30 to 40 mgm.....	2 cases	
40 to 80 mgm.....	1 case	
E. Icterus index (five cases reported)		
5 to 15.....	1 case	
15 to 30.....	1 case	
30 to 45.....	1 case	
45 to 60.....	1 case	
150	1 case	
F. Serology (twenty-six cases reported)		
Positive	6 cases	23.0%
Negative	20 cases	77.0%

The routine laboratory findings showed a definite leukocytosis in 64 per cent of cases (Table XIX). Seventy-five per cent of urinalyses revealed the presence of albu-

min while 25 per cent showed dextrose present. Blood dextrose determinations were made in ten cases showing elevation above normal in 60 per cent. In twenty-six cases, serology was positive in 23 per cent.

Eleven patients having chronic pancreatitis were operated upon (Table XX). Enlargement of the pancreas was noted in six cases and chronic cholecystitis in four.

TABLE XX. OPERATIVE FINDINGS IN ELEVEN CASES OF CHRONIC PANCREATITIS

Pancreas enlarged	6 cases
Chronic cholecystitis	4 cases
Fat necrosis	3 cases
Chronic duodenal ulcer.....	1 case
Chronic pyloric ulcer.....	1 case
Sanguinous fluid in abdomen.....	1 case

TABLE XXI. OPERATIVE PROCEDURE AND RESULTS IN CHRONIC PANCREATITIS

	Cases	Im- proved	Died	Mortality Per cent
Drainage of abdomen	3	1	2	66.6
Abdomen closed with- out drainage.....	3	2	1	33.3
Posterior gastro- jejunostomy	2	0	2	100.0
Cholecystectomy	1	1	0	0.0
Choledochostomy	1	0	1	100.0
Cholecystectomy and choledochostomy ...	1	1	0	0.0
Total	11	5	6	54.5

TABLE XX. ASSOCIATED PATHOLOGY IN CHRONIC PANCREATITIS CASES

Chronic cholecystitis	9 cases
Generalized tuberculosis	8 cases
Interstitial hepatitis.....	7 cases
Diabetes mellitus	5 cases
Hypertensive heart	2 cases
Acute ulcerative typhlitis.....	1 case
Gangrenous stomatitis	1 case
Chronic duodenal ulcer.....	1 case
Chronic gastric ulcer.....	1 case
Chronic pyloric ulcer.....	1 case
Chronic duodenitis	1 case
Obstruction to pancreatic duct.....	1 case
Portal cirrhosis	1 case
Luetic aortitis	1 case
Gangrene of foot.....	1 case
No associated pathology.....	3 cases

TABLE XXIII. PATHOLOGICAL CLASSIFICATION OF CHRONIC PANCREATITIS

Chronic interstitial pancreatitis.....	31 cases
Chronic tuberculous pancreatitis.....	7 cases
Chronic luetic pancreatitis.....	2 cases
Total	40 cases

In Table XXII it is interesting to note that chronic cholecystitis was the most common associated pathology. Peptic ulceration or inflammation was found in four cases or 10 per cent.

ACHLORHYDRIA: ITS CLINICAL SIGNIFICANCE AND MANAGEMENT

C. EMERSON VREELAND, M.D.†
DETROIT, MICHIGAN

The term "achlorhydria" is not synonymous with and should not be used as a substitute for the term "achylia gastrica." Achlorhydria means the absence of free hydrochloric acid, with decreased gastric secretion, but with the ferments, pepsin and rennin retained. Achlorhydria occupies the mid-stage between hypochlorhydria and true achylia gastrica. Both gastric ferments, free hydrochloric acid, and some intrinsic factor as yet not fully analyzed are lost in achylia. Thus we find true achylia representing the extreme end stage of gastric secretory depression.

There are two very distinct viewpoints regarding achlorhydria. First, that it represents an extreme depressive functional variation of the secretory activity of the stomach. Second, that it is a distinct pathological entity, in which an organic atrophy of the mucous membrane of the stomach is the outstanding feature.

Hanfield Jones²¹ first described "Atrophy of the Gastric Mucosa," in 1854. Fenwick¹⁵ pointed out the relationship of gastric atrophy to pernicious anemia in 1880. Ewald,¹⁷ in 1886, by the use of his test meal first noted the absence of gastric acidity and ferments, and demonstrated atrophy and chronic inflammation of the mucous membrane in an autopsied case. Rehfuß,³⁰ in 1915, by the method of fractional test meals, showed that there were true and false achylia.

Many clinicians have found cases of achlorhydria which have returned to normal secretion after a few months or a year, while Einhorn¹⁰ reports one case returning to normal after five years.

The importance of achlorhydria is shown by its frequency. Hurst¹⁹ showed in a series of 325 consecutive fractional test meals that complete achlorhydria was present in 10.5 per cent. Eggleston⁹ found 276 cases (10 per cent) of achlorhydria, among which 1.2 per cent were true achylia. Bennett and Ryle³ found achylia in 4 per cent of young adults.

Achlorhydria occurs with equal frequency in both sexes.

There is often a striking familial incidence. I have records of achlorhydria oc-

curing in two and three generations. Martius²⁶ found the condition in three children of a patient who died of Addison's anemia. Weinberg³⁵ examined the children of twelve patients suffering from pernicious anemia and achylia and found that nine of the aggregated twenty-two children had achylia.

The age incidence of fifty-six cases, compiled by Faber and Lange,¹³ is of clinical significance.

Age—years	No. cases
1-20.....	2
20-30.....	2
30-40.....	7
40-50.....	11*
50-60.....	19*
60-70.....	11*
70-80.....	4
Total.....	56

True achlorhydria is usually classified as simple or secondary. The simple type is thought to be of congenital origin, and the secondary type is supposed to be secondary to or associated with chronic debilitating diseases. In all truthfulness, the causes of all types of achlorhydria are certainly not known, which accounts for so many theories regarding it.

The simple type is said, by most writers, to be secondary to the depressive neuroses and neurasthenia, but since fractional gastric analyses were not made routinely before onset of nervous depressions, the achlorhydria may have preceded the nervous involvement or accompanied such symptoms, with some primary etiology as the cause of both. Much evidence will be presented later in support of the theory that the latter supposition may be correct. It is already a known fact that many cases of achlorhydria and achylia have been diagnosed

*About 80 per cent were between forty and seventy years.

†Dr. Vreeland graduated from the University of Michigan, obtaining his B.S. degree. He graduated from Rush Medical School, Chicago, in 1911. He was instructor in Medicine, University of Chicago, 1913-1915. He has been Chief of the Gastro-Intestinal Department of Medicine, Grace Hospital, Detroit, since 1916. He has lectured for several years in the Department of Post-Graduate Medicine, University of Michigan.

years in advance of the onset of the typical blood picture of pernicious anemia, and in advance of later developing chronic cholecystitis.

Consider now the secondary type of achlorhydria and with what diseases it is commonly associated. First there are the definite organic diseases of the stomach itself; gastric carcinoma, gastritis, gastric syphilis, and tuberculosis, and subtotal gastrectomy.

Next there is the group of chronic debilitating diseases associated with achlorhydria, the causes of which are often vague or mixed, such as toxic, metabolic, chronic infections, mineral deficiencies or ductless gland deficiency or imbalance. This group of diseases are nephritis, diabetes, pernicious anemia, pulmonary and visceral tuberculosis, alcoholism, hypothyroidism, chronic arthritis, epilepsy, and parathyroid disease.

Carlson and Keeton⁵ found after experimental parathyroidectomy that the quantity of gastric juice was lessened or entirely suppressed. They injected calcium salts, which caused a return of gastric secretion. Crohn⁸ states that the adrenal glands play a rôle in achlorhydria which, today, is little understood. Permin²⁹ found achylia in 75 per cent of cases of pulmonary tuberculosis. In chronic nephritis, Krakow²² found an incidence of 30 per cent. Faber and Lange found 25 per cent of achylia in diabetes. I believe my records will show fully 25 per cent in cases of hypothyroidism with obesity, while the number of cases of achlorhydria among patients with the symptom-triad of obesity, hypothyroidism, and sacroiliac tenderness is very great. Felsen¹⁴ found complete absence of free acid in 5 per cent of epileptics examined.

The third group of diseases associated with achlorhydria might be classed as the infections group, with or without a nutritional and mineral deficiency or imbalance. Chief among these conditions are chronic cholecystitis, chronic intestinal infections and parasitic cases, dithioriocephaluslatus, sprue and pellagra.

Jacobson²⁰ found achlorhydria in thirteen out of thirty cases among children with chronic intestinal infections. Bastedo² reports two patients having sprue with achylia, who died, both showing typical blood pictures of pernicious anemia. Faber¹² believes that intestinal bacterial infections and toxins play

an important rôle in the production of achlorhydria and achylia, an inherited predisposition supplying a constitutional substrate for its development.

The regular occurrence of achlorhydria, followed soon by a complete achylia in cases in which partial gastrectomy has been performed for ulcer, and in which the whole acid-bearing fundus and body of the stomach remain intact, is the most recent and probably the best evidence that achylia results not from organic changes in the mucosa but from an interference with the functional nervous control of gastric secretion. This achlorhydria occurs immediately after the operation, providing the antrum and particularly if the incisura angularis has been resected; it occurs before a chronic gastritis has had sufficient time to become established. These cases present the spectacle of normal acid-producing cells in the surviving portion of the stomach and yet an achylia both of acid and of ferments; it offers a final refutation to the argument of the pathologists that all cases of achylia result from and follow chronic atrophic gastritis.

Now that we have a fairly complete list of the diseases accompanying or preceded by achlorhydria, let me point out as many factors as are known common to most of them. In this way, the true clinical significance of the condition should be made more apparent.

Hypercholesteremia occurs regularly in cases of diabetes and, following the experimental removal of the pancreas, Gray and Rabinowitsch¹⁷ suggest that the degree of cholesteremia is a more satisfactory index of the severity of the diabetic condition than is any one of the other factors. The administration of insulin is rapidly followed by a drop in plasma cholesterol.

Lipemia is commonly observed in all types of chronic nephritis. Hypercholesteremia is a constant manifestation in lipoid nephrosis (Epstein's). Blood cholesterol of 700 to 900 mg. per 100 c.c. are common and as high as 2200 mg. have been noted, whereas normal blood cholesterol ranges from 140 to 200 mg. per 100 c.c.

In most cases of hepatogenous jaundice, both obstructive and non-obstructive, the blood cholesterol is abnormally high. It occurs in cholecystitis, catarrhal jaundice and acute hepatitis.

Moderate increased blood cholesterol occurs regularly during the course of normal pregnancy, reaching a maximum at term. Clinically, the onset of gall-bladder symptoms and sacro-iliac distress frequently follows pregnancy.

Hypothyroidism is rather constantly associated with an increase in blood lipoids, the degree of hypercholesteremia being roughly proportional to the diminution in the basal metabolic rate. A return to normal usually follows the administration of thyroid extract. Clinically again we see associated hypothyroidism, obesity, sacro-iliac joint involvement and lowered blood pressure. Hypothyroidism also appears in several members of a family, and through several generations, as does achlorhydria. Note that plasma cholesterol in hypothyroidism is reduced by thyroid gland substance, while in diabetes it is reduced by insulin. Then, remember, that originally the hypothyroidism was due to iodine deficiency during the growth period, or it began *in utero* from the maternal iodine deficiency.

Xanthomas, commonly associated with diabetes, nephritis, jaundice, and chronic cholecystitis, constantly show high blood cholesterol. All of these conditions are commonly achylic. Pellagra, another disease showing a high incidence of achlorhydria, produces skin lesions, too, and its cause is food deficiency or imbalance plus some low grade infection.

Strange to say, the plasma cholesterol is uniformly low in pernicious anemia, and this is also true of grave secondary anemias. The explanation of this is thought to be dependent upon some abnormality of reticulo-endothelial function.

Blood calcium and phosphate disturbances are frequently seen among the diseases accompanied by achlorhydria. The outstanding physiologic effect of the administration of active extracts of the parathyroid glands is an increase in the calcium concentration of the blood serum. Because of the fact that calcium exists in the body chiefly in the form of calcium phosphate it is obvious that either one of these elements cannot be significantly affected without simultaneously involving some change in the other. Collip believes that the physiologic action of the parathyroid hormone is to regulate calcium metabolism and to maintain it at a definite level, even at the expense of the bones if

necessary. The production of this characteristic effect is dependent upon the presence of an adequate supply of vitamin D, in the absence of which the injection of the parathyroid hormone may fail to produce an increase in the serum calcium concentration. Normal blood calcium ranges from 9 to 11 mg. per 100 c.c. and blood phosphate ranges from 3 to 4.5 mg. per 100 c.c.

Hypocalcemia is present most frequently in the following diseases and conditions: hypoparathyroidism, celiac disease, sprue, nephrosis, nephritis, osteomalacia, vitamin D deficiency, pregnancy and alkalosis.

Apparently many cases of achlorhydria are associated with diseases which are related closely to vitamin deficiency, deficiencies of calcium, phosphorus, and iodine metabolism, and the faulty metabolism of cholesterol. The physiological effect of insulin and thyroid gland extract on cholesterol metabolism is shown also, and probably the over-balancing of too much fat and carbohydrate to the proportion of proteins, minerals, vitamins, raw fruits and vegetables, and whole grains may aid in producing lipemia.

Studies of the average American dietary have shown that the content of the food in minerals often falls far below the calculated optimum and sometimes below the minimum. A striking example of this is the failure of many dietaries to furnish sufficient calcium and phosphorus. The several mineral elements are not interchangeable. Each has its own place in metabolism and substitution is not possible. The most beneficent effect is exerted by calcium. A synergistic influence of calcium is exhibited toward iron; for with an abundant intake of calcium, the organism can maintain equilibrium on an appreciably small supply of iron. Calcium is able to correct inorganic imbalance in either direction, and it nullifies the deleterious influence of sodium, potassium or magnesium. Just as calcium regulates an equilibrium with iron, Hart and Steenbock¹⁸ found that rats suffering from nutritional anemia can utilize iron for building hemoglobin only when this element is supplemented by minute amounts of copper. Then Myers and Beard²⁸ observed that not only copper but several other metals as well, manganese, nickel, and arsenic, each have a supplementary effect on hemoglobin regeneration.

Sherman³² studied 150 American dietaries and calculated from them 14 to 20 mg. of iron intake daily—just the minimum requirement.

Sherman also found the minimum calcium daily requirement to be 1 to 1.5 grams, and that many dietaries do not contain that amount. Under ideal conditions, growing children are said to require from three to four times as much calcium per kilogram of body weight as is required for men. Calcium is concerned with the physiology of nerve conduction and stability, and probably in energy exchange of muscle contraction. Since the cases of achlorhydria simplex are mostly seen in the depressive neurosis and nervous instability, an inadequate supply of, or inability to assimilate enough calcium could easily be one of the fundamental causes. Phosphorus was found to be deficient more commonly than calcium, and works in combination with calcium. Furthermore, gastric parietal cells are credited with the ability of causing a chemical reaction between the dehydric sodium phosphate of the blood and the sodium chloride of the mucosa, freeing hydrochloric acid in the stomach. The average amount of free hydrochloric acid secreted daily is about 1500 c.c. Certainly any lack of phosphorus supply or metabolic failure of utilization of phosphorus would have a profound influence regarding achlorhydria. Phosphorus is found in organic union with proteins, fats and carbohydrates. It aids in the work of all glands and particularly in the mammary and sexual glands.

McCollum²⁴ makes the broad statement that faulty diets do not often produce sudden and graphic consequences; the results are slow, insidious and difficult to recognize. Dietary deficiencies are usually multiple, and the resulting clinical picture is correspondingly obscure.

McCarrison²³ attributes the great amount of digestive disease experienced by civilized people to their refined diets. He tells of the magnificent physique, the robust health, the long preservation of youth and nervous stability seen among tribes in the Himalayas, which he credits to their diet of milk, eggs, whole grains, and raw fruits and vegetables; he saw no appendicitis, peptic ulcer or nervous digestive disorders among these people. The vague but insistent digestive complaints of gastro-intestinal invalids may

be the expression in a milder tone of the same nutritional faults which, in beriberi and sprue, lead to loss of intestinal neuromuscular control and assimilative powers and to other distressing symptoms of disease. The failure of good nutrition leads to instability of the nervous system and emotional imbalance.

Resistance to infection is definitely related to good nutrition. McLester²⁵ observes that children from parents suffering from malnutrition are deficient mentally and physically, and that this may be carried through a few generations, until they even fail to perpetuate themselves. Luther Burbank, in his monographic work on heredity, states the same thing and projects the idea far beyond the first generation into the environment of centuries. He says:

"There are really, after all, only two main influences which we need to direct, in order to change and control the characteristics of any individual thing. The first of these is environment. Rains, snows, fogs, droughts, heat, cold, wind, soil, food, shade, sun, light, air, animal, plant, or human neighbors and a thousand other factors are the elements of environment—some pulling one way and some pulling another, but each with its definite, though sometimes hardly noticeable, influence on the individual. The second influence is heredity, which is the sum total of all of the environments of a complex ancestry, back to the beginning." David Starr Jordan of Stanford University supported Burbank's belief when he said, "A knowledge of Mendelism is recognized as only the ABC to the broader knowledge of heredity necessary for success in animal and plant improvement, and all variations and all mutations of every nature are responses to environment which, by repetition and combination, are slowly but surely fixed in heredity and at last made tangible either by nature or that part of nature called man."

So many observers have noted the familial or hereditary tendency of achlorhydria as well as the same tendency in families suffering from the diseases associated with achlorhydria, viz., pernicious anemia, diabetes, nephritis, gall-bladder disease, hypothyroidism, etc., that I wish to emphasize that heredity is only the sum total of generations of ancestral environment, and, as related to achlorhydria, this environment of the past probably multiplied many factors of mineral, vitamin, and food deficiencies or imbalance, together with overeating, under-exercising, nervous strain, and many other things.

There are many common factors associating the diseases, pellagra, sprue, and pernicious anemia. We are chiefly concerned with the achlorhydria. But in addition they

usually show the sore mouth, red tongue, and diarrhea. Other gastro-intestinal symptoms are present. Pellagra and pernicious anemia present marked nervous and cord symptoms at times, while sprue and pernicious anemia give a similar grave blood picture. Note particularly that some deficiency factor is thought to be present in all three conditions.

In pellagra, three views have been expressed: first, that it is of an infectious nature; second, that it is a deficiency disease; third, that an infection attacks people who have a general malnutrition and a specific form of nutritional failure. Goldberger¹⁶ finds the specific deficiency to be the heat-resistant fraction of vitamin "B," now called vitamin "G." He prevented recurrences of the disease by liberal feeding of milk, eggs, and meat. Later refinements to the curative diet have been raw vegetables and fruits, liver substance and yeast.

Sprue has frequently been confused with pellagra, and E. J. Wood³⁶ suggests that it is identical with pernicious anemia. Ashford¹ believes the Monilia infection becomes pathogenic only when there has been a preceding digestive deficiency. Milk is the outstanding food to correct the diet deficiency, but liver and liver extract are greatly beneficial. Raw fruits are beneficial, and especially strawberries. In common with some of the achlorhydria diseases showing increased blood cholesterol, the sprue diet shows best results when the fats and carbohydrates of the diet are reduced. Thomas Brown⁴ has shown that achlorhydria of sprue is frequently accompanied by a decrease or loss of the pancreatic ferments.

Castle⁶ discovered that beef protein, which had been digested in the normal stomach and then regurgitated, can then be fed to the pernicious anemia patient with the same striking benefit that accompanies liver feeding, and, associating this with the unfailing achlorhydria of this disease, he has evolved an attractive theory. He assumes that pernicious anemia is a deficiency disease due to the lack of two substances, an intrinsic and an extrinsic factor. The former is present in the stomach of the normal person but is missing from the stomach of the patient with pernicious anemia; it is distinct from pepsin and hydrochloric acid, and is not to be found in the saliva or the duodenal contents. This substance in the normal

process of digestion produces from the food (beef muscle especially) some split-product which is essential to health. This product is the extrinsic factor. It is lacking in pernicious anemia because the source of its production, the intrinsic factor, is missing from the patient's stomach. The achlorhydria or achylia would appear, then, to be merely the accompaniment of some more ultimate gastric defect which in itself is the cause of the disease. Following Castle's work, Sturgis and Isaacs³⁴ experimented with dried defatted extract of whole hog stomach and found that daily feedings of 15 gm. to 30 gm. produced active and prompt response in the treatment of 39 pernicious anemia patients. This substance is called *ventriculin*.

Recently, Morris²⁷ and his co-workers have been able to concentrate a fraction from the gastric juice of men, swine, and dogs, which, when injected intramuscularly, produces prompt remissions in pernicious anemia. Richter, Joy, and Kim³¹ have demonstrated the absence of the "specific" anti-anemic substance in the liver of a patient suffering from pernicious anemia.

Shiff and Tahl³² showed marked improvement in the diarrhea and gastro-intestinal symptoms of pernicious anemia patients by the use of desiccated hog's stomach, but could not induce a return to normal gastric acidity by its use. Colonic peristalsis was stimulated. The hog's stomach extract was tried in cases of achlorhydria accompanying intestinal infections, chronic cholecystitis, and tuberculosis with marked clinical improvement in the gastro-intestinal symptoms and diarrhea, but again failed to restore the stomach acids to normal.

Explanation of the causes of achlorhydria and why it is associated with so many different groups of diseases could be made in several different ways. The preceding data bring together practically all that is definitely known about it at the present time, yet the near future may bring an immediate clear solution to the whole problem. Until such a solution is finally made, it would seem most logical to assume the following: Achlorhydria occurring with gastritis, carcinoma, syphilis, and tuberculosis of the stomach is the direct result of chronic inflammation and atrophy of the gastric mucosa. When it occurs with nervous instability and emotional imbalance, it may be

temporary or permanent, but both the achlorhydria and the nervous depression are due to a general nutritional deficiency or imbalance, either mineral, vitamin, or protein, any of which may affect the ductless glands.

In the more chronic group of associated diseases, the lowered resistance has become more marked because achlorhydria appears more frequently in older individuals, and because they may represent several generations of inherited mineral or other deficiencies. Such lowered resistance permits the invasion of various infections, which vary with different climates and races of people. The group of achlorhydrias among the diseases with high cholesterol in the blood plasma probably have the same nutritional deficiency background, with subsequent chronic infection, but in addition probably over-eat foods rich in fats and starches, and at the same time under-exercise. The chief deficiencies in minerals are of calcium, phosphorus, iodine and iron, but to a lesser degree, copper, manganese, and sulphur. All of the vitamins may be deficient unless we make special effort to obtain an abundance of milk, eggs, liver, whole grain products, raw vegetables, fruits, and butter, and then supplement this during the winter months with cod liver oil, or the irradiated food products. We must get away from foods that are too refined.

Because of the great frequency of achlorhydria among so many groups of diseases, no chronic ailment or vague complaint should be dismissed without a gastric analysis. A good rule to follow is to give the one-hour Ewald or Boas test meal first. Then if free acid is absent or deficient, repeat the meal, but withdraw it fractionally by the Rehfuess method. If all the fractions show no free acid, I would not recommend the use of histamine routinely because of its frequent violent reaction. It would be preferable to repeat the fractional meal at a later date. The pepsin and rennet ferment tests are very simple to make, but will add little to the diagnosis, as achylia is simply the end-stage beyond achlorhydria.

When cases of achlorhydria are found, we should be stimulated to carefully search for all the diseases and conditions known to be associated with them, which will call for most exhaustive blood studies, urine tests, and metabolism estimation, as well as

physical and roentgenological examination. Then when one of the diseases commonly associated with achlorhydria is diagnosed, a gastric analysis should be made, and if anacidity is demonstrated, it should be treated as a definite deficiency of the intrinsic gastric factor, in addition to deficiency of hydrochloric acid. We should not neglect thorough inquiry regarding the optimum daily intake of all essential minerals, vitamins and proteins. Glandular deficiency, if present, should be corrected.

Prognosis in achlorhydria is said to be good, at least no evidence has been presented which shows that this physiological deficiency causes death or rapid failure of health. We could say the same thing about migraine, hypothyroidism, obesity, insomnia, and many other conditions, yet each or all may finally, though insidiously, contribute to some final fatal disease. If too many supports of the human structure are removed or weakened, the structure falls.

Inter-marriage of achlorhydric individuals presents the same problem as presented in migraine, hypertension, nephritis, pernicious anemia, and many other conditions appearing frequently in families over several generations. Biologically, such marriages should not be encouraged. In achlorhydria, other than that due to organic disease of the stomach, we should be able to cause a substantial decrease by marriage control, providing every individual involved received the optimum intake of balanced foods, vitamins, minerals, and the specific intrinsic gastric factor.

Management of achlorhydria consists, largely, in the careful search for all possible deficiencies, and correcting them. Dilute hydrochloric acid causes clinical improvement in most cases suffering from diarrhea and flatulence. Search for and remove all focal infections. According to the recent experiments of Shiff and Tahl, the intrinsic gastric deficiency should be supplied, at least periodically, if not regularly. Since the stomach emptying time is greatly increased in cases of anacidity, it is well to have all foods thoroughly masticated, and in cases of diarrhea use the well cooked, low residue diet.

When any country grows older, the soil becomes depleted of minerals and humus, which sustains swarms of soil bacteria.

Without plenty of soil fertilizers, the bacteria will not thrive, and then our vegetables, fruits, and grains will not contain enough minerals and vitamins unless bacteria transform soil minerals into the plants. The agricultural bulletins are constantly describing deficiency diseases in farm animals due to lack of various minerals in their grains and forage, because it was grown on soils deficient in these elements. I have letters from soil experts stating that excessive rainfall, erosion, and lack of money for yearly fertilization in the Southeastern states has greatly decreased the mineral quality of their vegetables and forage. And so it may come about that achlorhydria and all other deficiency conditions may be largely controlled by growing our vegetables, fruits, grains, and meat animals on farms that are supercharged with all the essential minerals, and swarming with the friendly bacteria that accomplish decomposition and nitrification.

References

1. Ashford, B. K.: Tice's, Practise of Medicine.
2. Bastedow, W. A.: Jour. Amer. Med. Assoc., 1923.
3. Bennett and Ryle: Therapie der Gegenwart, 1913.
4. Brown, Thos.: Internal Clinics, Series 37, 1927.
5. Carlson and Keeton: Amer. Jour. Phys., 1920.
6. Castle, W. B.: Amer. Jour. Med. Sci., 1930.
7. Collip: Trumper and Cantarow—Biochem. Int. Med., 1932.
8. Crohn, B. B.: Affections of the Stomach, 1927.
9. Eggleston, E. L.: Jour. Amer. Med. Assoc., 1924.
10. Einhorn, Max: Med. Record, 1894.
11. Ewald: Diseases of Stomach, 1886.
12. Faber, K.: Arch. Inter. Med., 1924.
13. Faber and Lange: Zeit. Klin. Med., 1908.
14. Felsen, J.: Arch. Inter. Med., 1924.
15. Fenwick: Atrophy of the Stomach, 1880.
16. Goldberger, Joseph: Public Health Report, 1926.
17. Gray and Rabinowitsch: Trumper and Cantarow—Biochem. Int. Med., 1932.
18. Hart and Steenbock: Jour. Biol. Chem., (May) 1928.
19. Hurst, A. F.: Medical Essays and Addresses, N. Y., 1924.
20. Jacobson, A. T. B.: Acta. Med. Scand., 1920.
21. Jones, Hanfield: Monographic Medicine Quot., 1916.
22. Krakow: Zeit. Klin. Med., 1910.
23. McCarrison, R.: Brit. Med. Jour., 1924.
24. McCollum, E. V.: The Newer Knowledge of Nutrition, New York: Macmillan, 1929.
25. McLester, James S.: Nutrit. and Diet in Health and Disease, 1931.
26. Martius, F. W. A.: Achylia Gastrica, Vienna, 1897.
27. Morris, et al: Jour. Amer. Med. Assoc., 1933.
28. Myers and Beard: Jour. Amer. Med. Assoc., (Oct. 19) 1929.
29. Permin, G. E.: Inter. Beit. a Path., 1910.
30. Rehfuess, M. E.: Amer. Jour. Medical Science, 1915.
31. Richter, Joy, and Kim: Nutrit. and Diet in Health and Dis., 1931.
32. Shiff and Tahl: Amer. Jour. Dig. Dis. and Nutr., 1934.
33. Sherman, H. C.: Jour. Biol. Chem., 1924.
34. Sturgis and Isaacs: Amer. Jour. Med. Sci., 1930.
35. Weinberg, F.: Dent. Arch. Klin. Med., 1918.
36. Wood, E. J. Amer. Jour. Med. Sci., 1915.

Discussion

DR. ELMER L. EGGLESTON: This paper by Doctor Vreeland is very timely and should awaken our interest in many gastro-intestinal conditions which we observe from day to day and concerning which

we know so little. The complete absence of hydrochloric acid in the gastric juice had been observed for years without much being known as to its significance. We concluded it was of little importance as we had been taught that nature supplied the digestive ferments in duplicate or triplicate, little dreaming that there were ferments produced by the gastric mucosa of greatest importance in blood regeneration.

The antiseptic value of the hydrochloric acid is important and tends to protect the upper gastrointestinal tract from the effects of bacterial invasion. As an activating agent of some of the gastric ferments it is most important. Its absence is practically always accompanied by a disturbed motility—a rapid emptying of the upper gastrointestinal tract, the food passing through the small intestine and into the colon in an undigested state, where it is decomposed by the intestinal bacteria. There results a colon irritation and frequently diarrhea and a possible lack of nutrition to the patient. Not always do we note these symptoms but they are sufficiently frequent to warrant our attention and to suggest that possibly every patient exhibiting the complete absence of hydrochloric acid after the use of histamin should receive serious consideration.

The work of Castle, Minot and Murphy, on the relationship of the hematopoietic ferment to primary anemia and subacute spinal degeneration, should encourage more serious consideration relative to this gastro-intestinal disturbance which hitherto has been accepted as unfortunate but of no particular importance. When the atrophy of the gastric glands, resulting from a chronic gastritis, is so complete as to destroy the ferments and especially the hematopoietic ferment, it is not sufficient to prescribe hydrochloric acid only, but this specific ferment in the form of liver extract or ventriculin must be prescribed also. These ferments are rarely, if ever, absent unless the patient exhibits a complete and probably permanent achlorhydria. Hurst also suggests another X ferment which he termed "neuropoietin." This, he thinks, is not identical with hematopoietin as subacute combined degeneration of the spine is not always present in Addison's anemia and may be present independently of primary anemia.

The atrophy of the gastric glands is probably the result of a chronic infective gastritis in the majority of cases. Hurst has called attention to the possibility of a chronic gastritis being a definite causative factor in the etiology of gastric carcinoma. He is inclined to the view that the achlorhydria precedes the malignancy and is not the result of the new growth. For this reason, if no other, we should not neglect to search for, and treat with the greatest of care, a gastritis which not only causes the achlorhydria but also destroys the glands secreting pepsin, rennin and the hematopoietic ferments, the absence of which results in anemia of both the primary and secondary types. There is no doubt but that a temporary absence may result from a neurosis with a disturbance of the vegetative nervous mechanism, or from wasting diseases as mentioned by the essayist, but I am convinced that a gastritis at some period is a very definite factor in the mucosal degeneration and whether the infection is primary or blood-borne from some other focus, treatment of the condition is very important.

We are prone to accept achlorhydria as being more or less permanent and not to be too seriously considered. The physician may be forgiven many things, due to a lack of knowledge, but when he has the measures at hand to obtain such information and fails to use them, the sin of ignorance or indifference is unforgivable.

TUBERCULOSIS IN THE ELDERLY

W. H. MEADE, M.D.†
MANISTEE, MICHIGAN

In a perusal of voluminous literature on tuberculosis of the last ten years I was unable to find anything relating to the care and management of pulmonary tuberculosis in elderly patients.

In practically all public health problems of recent years relative to all other infectious and contagious diseases the origin, that is, the infective organism, be it man, animal or vegetable, has been sought for with care. It seems to me that a tremendous amount of work has been done in the control and treatment of phthisis but almost invariably the elderly have been overlooked in the elimination of the disease. This has been forcibly brought to my attention in my own practice in a town as small as 10,000, where the disease is more or less prevalent.

In three years I have found thirteen cases of pulmonary tuberculosis in elderly patients, the youngest being fifty-two, the oldest eighty-three, and six of them being seventy years of age or more. Of the thirteen patients, eight had positive sputums and were in no sense controlled patients from the standpoint of hygiene. The number of individuals exposed by these to the ravages of the disease are countless. All, with the exception of two, were living with their children and grandchildren. Of the children and grandchildren, there are known twenty-three cases of pulmonary tuberculosis, of whom nine have died. How many more is impossible to say because we have been unable to check them properly.

The control of these older patients offers a grave problem which can be met only by the physician who is alert to the possibility of the disease in these patients, many of whom have had so-called bronchitis, repeated attacks of grippe or influenza, tobacco cough, repeated attacks of hoarseness, and diarrhea.

We have been in the habit of offering to relatively young patients collapse therapy in all its forms, and rest for the control and treatment of the disease, both for the purpose of relieving ourselves of the infecting menace and to make them economically independent again. In the aged, the diagnosis is rarely made, but, if it is, the treatment should not be the repetition of platitudes and assuring the family that nothing

can be done. It is obviously a grave mistake for when we walk away from the door the family continues to be exposed to infection and possibly many others who visit with the patient frequently.

I have found that by explaining to the patient the seriousness of giving the disease to younger members of the family and others, and to the family the seriousness of having the source of infection in their midst, there is an immediate sense of cooperation. The essential hygienic measures are the use of sputum cups, covering of the mouth on coughing with gauze or absorbent paper, the efficient use of soap, water, lysol solution, and individual eating utensils.

A short term of instruction in an efficient sanatorium will be an advantage to the patient and his contacts. It is foolish, in the extreme, to feel or consider that members of a household and associates are already exposed and, therefore, too late to use preventive measures. One or two members may be infected but others may be saved by shutting down the supply of organisms. In some of these elderly patients, collapse therapy may be used to the extent that their sputum will become negative and even an arrest of the disease may be expected. Either a phrenic exeresis or pneumothorax may be employed.

This has been demonstrated in the following three cases which are here reported.

Case Reports

Case 1.—Mr. A. J. N., aged seventy-four, was seen in April, 1934. At the time, the patient complained of a long continued cough and a recent loss of 20 pounds in weight. His present illness began a year before, when he noted that he was coughing rather frequently and around twelve and one o'clock in the day he felt extremely tired. He consulted his local physician, who told him he had a chronic bronchitis and gave him treatment accordingly. He continued about his work and in his social activities until the fall of 1933 when his

†Dr. Meade obtained the degree of B.S. in 1929 from the University of Detroit. He graduated M.D. from the University of Michigan. He served as externe at the St. Joseph's Mercy Hospital, Ann Arbor, and as interne at the St. Lawrence Hospital, Lansing, Michigan. He has also been resident of the Michigan State Sanatorium at Howell.

TUBERCULOSIS IN THE ELDERLY—MEADE

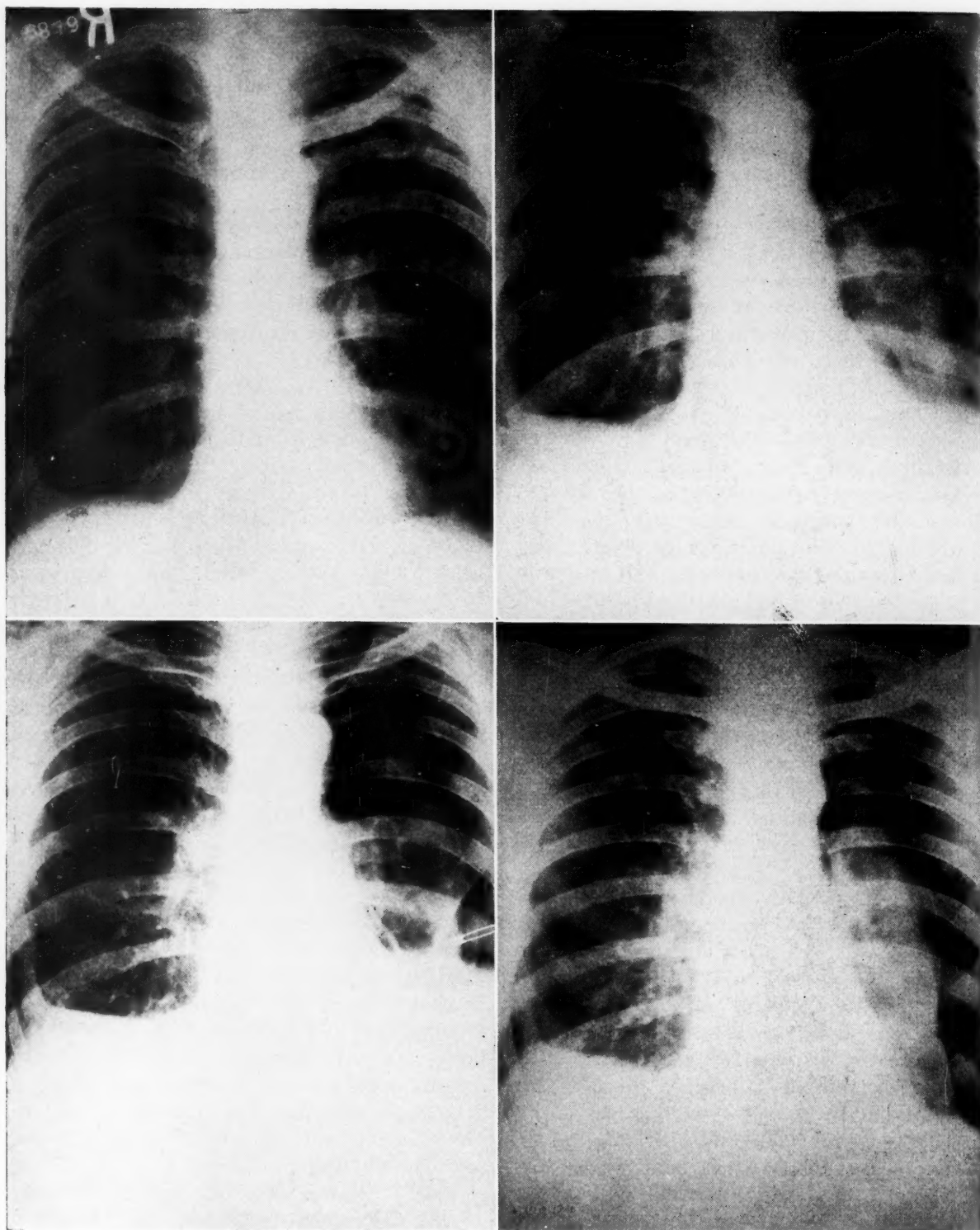


Fig. 1 (*upper left*). Case 1. Large cavity on left. Mixed lesion right apex. April, 1934.

Fig. 2 (*upper right*). Case 1. Pneumothorax on left. Fluid present. April, 1934.

Fig. 3 (*lower left*). Case 1. Left pneumothorax. Sputum negative. June, 1934.

Fig. 4 (*lower right*). Case 1. Fluid absent after numerous aspirations. Cavity closed. October 1, 1934.

loss of weight began to alarm him. He then consulted an eminent internist in Chicago, who investigated him thoroughly, and x-rayed him for gastrointestinal and genito-urinary neoplasms. He was then told that his heart showed some signs of muscular degeneration due to coronary sclerosis and

paranasal sinus disease. His activities were restricted. In February, 1934, he began to have night sweats. His cough continued, unabated, and in a period of sixty days he lost 20 pounds. On March 28, he raised a small amount of bloody sputum.

Past history: The patient did not remember of any childhood diseases, and he had had no operations. In 1907, 1925, 1929, he had pneumonia, each episode being followed by a protracted convalescence. He had had nocturia, one to two times for three years. Of importance in his family history, were the facts that one brother died of pulmonary tuberculosis in 1914, and one of coronary thrombosis in 1932.

Physical examination showed a tall, thin, elderly male who appeared chronically ill and was coughing frequently. His head, ears and neck were normal. The pupils of the eyes were equal and reacted to light and to accommodation, and an arcus senilis was present. The mucous membranes of the nose were swollen. He had an upper plate and a lower bridge. The thorax was symmetrical and had poor expansion. There was marked increase in fremitus over upper third in both lungs. There were bronchial breath sounds in the left lung at D. S. 3 and 4, with whispered pectoriloquy. Medium coarse rales were heard over the upper one-half in both lungs, more marked at the left. There were a few moderately fine crackling rales at the right base. The apex of the heart was inside the mid-clavicular line. The heart sounds were of fair quality with an extrasystole every four to six beats. No murmurs were heard. The aortic second sound was accentuated. The blood pressure was 114 systolic and 70 diastolic. The abdomen was scaphoid, otherwise normal. The genito-urinary examination showed a hydrocele on the right. The prostate was moderately enlarged. The rectal examination showed internal hemorrhoids. He had a dry, eczematoid skin in the lower one-third of both legs. Reflexes were present and normal.

Laboratory examination: The hemoglobin was 75 per cent. The Kahn test was negative. Chemical examination of the urine showed no albumin or sugar. In the microscopic examination there were 30 to 40 pus cells to a high power field, and no red blood cells or casts. The sputum on April 9, 1934, was positive, Gaffky 8.

His temperature was 101, pulse 80, and respiration 24.

On April 17, the patient was hospitalized and on the 19th a left pneumothorax was instituted. On the following day the patient developed a spontaneous collapse on the same side with considerable dyspnea, which was relieved by removal of air. Immediately following this he developed fluid on that side. Approximately an 80 per cent collapse was obtained. The patient was discharged home in one month and pneumothorax refills continued there. From May 27, 1934, until Jan. 1, 1936, his sputum has been continuously negative both by routine smear and culture. Fluid was aspirated in June, 1934, and at intervals after that until the pleural cavity became dry. In October, 1934, the patient had a spread of the disease in the base of the right lung which necessitated complete bed rest.

His temperature ranged from 97.8 to 99, pulse from 58 to 70, and respiration from 20 to 24. From November, 1934, to May, 1935, he had gained 28 pounds, temperature was normal, and he was resting comfortably at night without coughing. He carried on in various committees, kept in touch with business by correspondence and has been extremely careful in all his contacts. In May, 1935, he again developed fluid and a slight rise in temperature to 100 degrees which lasted over a period of one month. He had a concomitant loss of appetite and a drop in weight. The cough and sputum did not increase and the latter was still negative for tubercle bacilli by concentration test. From mid-August until the present, January 1, 1936, he has continued to improve, has regained twelve pounds, the sputum remains negative by smear and

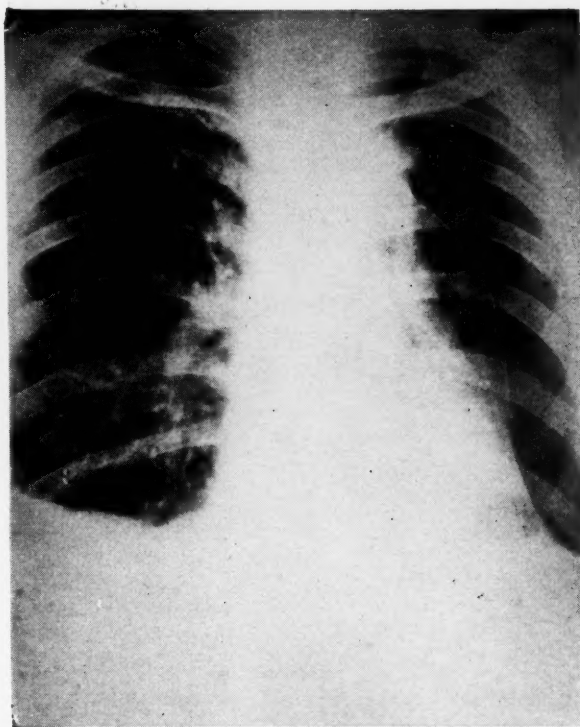


Fig. 5. Case 1. Left pneumothorax. Patient gained 30 pounds. Age seventy-six. April 30, 1935.

culture, and there continues to be a small amount of clear fluid in the pleural cavity.

Case 2.—Mr. T. M., aged sixty-two, was seen in June, 1933, at his home, complaining of hemorrhage which was brought on by coughing. Since January, 1933, when the patient had a severe cold which lasted for two months, he had been tiring very easily. At the time, he was indulging in alcohol more than moderately and he believed this the cause of his fatigue.

He continued to raise a small amount of blood for four or five days. An x-ray (portable) at this time showed an exudative lesion in the mid-lung field, on the right. His sputum at this time was positive. In his past history the only thing of note was the history of pleurisy and prolonged cold on his arrival in this country from Ireland, forty-seven years ago. His wife and four children are apparently in good health. As this patient was seen in consultation, I believe that no effort was made to have them checked.

One June 17, the patient was given a temporary right phrenic paralysis and put to bed. He remained there only three months and then continued about his business as before. He did not return for a check-up x-ray until January, 1934, at which time it was found the diaphragm was functioning but the lesion had entirely cleared, the hilar shadows remaining very prominent. His sputum was negative. Since that examination this patient has failed to report although he continues with his business and attempts to keep moderate hours.

Case 3.—Mr. J. F., aged sixty-six, was seen in consultation in October, 1933, complaining of severe fatigue and a constant hacking cough, beginning in July of the same year. As he had always had trouble with his nose and sinuses he believed that these were responsible for his symptoms. He had lost about nine pounds. His sputum was positive. He was conducting a retail trade at this time and, therefore, was coming in contact with a large num-

TUBERCULOSIS IN THE ELDERLY—MEADE

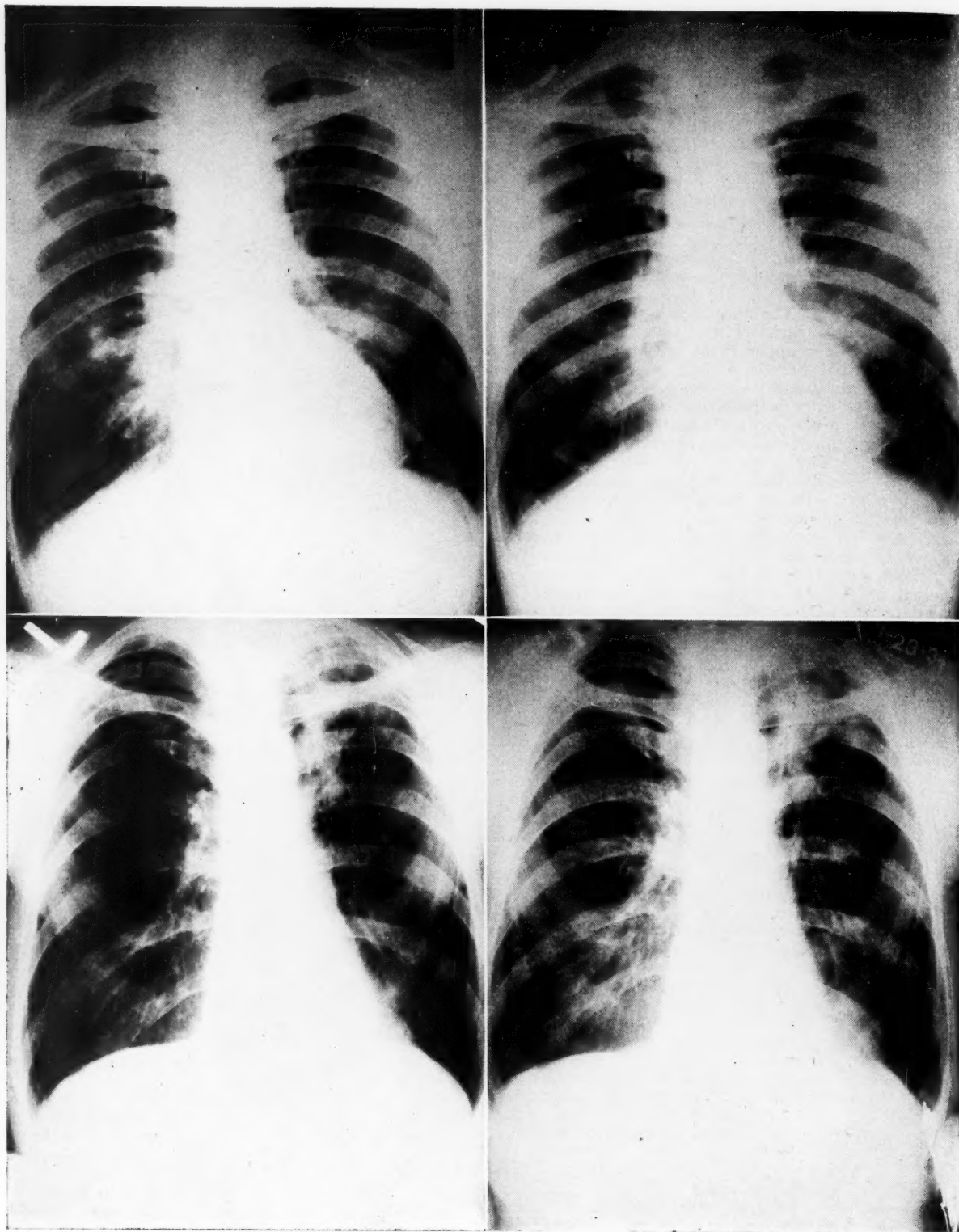


Fig. 6 (left). Case 2. Exudative lesion with cavity in the mid-lung field on the right. June 15, 1933.
 Fig. 7 (right). Case 2. Diaphragm functioning. Right lung field clear. January 28, 1934.
 Fig. 8 (left). Case 3. Mixed lesion on the left. October 2, 1933.
 Fig. 9 (right). Case 3. Slight increase in fibrosis. January 23, 1934.

ber of people. A permanent phrenic paralysis was advised and refused. A plate, taken in January, 1934, showed relatively little change in the lesion except for more stringy appearance suggesting healing. After six weeks rest the patient returned to

his business. Whether or not the patient has a positive sputum cannot be determined, because of the patient's lack of coöperation, due for the most part to the lack of advice and proper explanation from his attending physician. The thing of impor-

tance in this patient's past life was the history of numerous attacks of what he termed "grippe," relieved by short periods of bed rest and inactivity.

Comment

As has been shown, there has been considerable laxity among the profession in the recognition of phthisis among the elderly. In failing to recognize it we have failed to remove a very potent menace to our success in public health work.

Fishberg and Rubin have discussed the

problem of the elderly tuberculous individual and seemed to think that it is one of custodianship and segregation without any specific treatment. I am inclined to think the control of these sources of infection by radical measures, that is, collapse therapy, may save members of the family and their associates from a grave disease and a long-continued economic loss. These collapse methods may arrest the disease in the elderly but should be primarily used with the idea of eliminating a source of infection.

DISEASES OF PERIPHERAL ARTERIES*

WALTER G. MADDOCK, M.D.
ANN ARBOR, MICHIGAN

The intensive study of diseases of peripheral arteries during the past ten years has added considerably to the knowledge of these conditions, and, of equal importance, has served to arouse a general interest in the individuals so afflicted. The treatment of peripheral vascular lesions is a difficult problem. Alleviation of symptoms and return of the patient to a fair degree of activity is obtained only after concentrated effort, a close attention to details, a thorough knowledge of the possibilities of each situation, and of the value of available methods of treatment.

As patients are seen with peripheral arterial disease resulting in a lack of blood supply to the extremities, they fall very definitely into two main groups: (1) those whose symptoms are due to a vascular spasm with no, or only slight, organic changes in the vessels, and (2) those whose symptoms are due primarily to organic obstructing disease of the arteries. Although there is some overlapping, the two groups can largely be dealt with separately.

Vasospasm

Spasm of peripheral vessels results from abnormal stimuli to a definite physiological mechanism of the extremities. Besides the function of locomotion and prehension, the extremities are found to be importantly concerned with the heat regulating mechanism of the body.³ In cold weather, when heat is to be conserved in order to maintain the constant internal body temperature, blood is drawn in from the extremities to the vital head and trunk, and conversely, in summer, when heat has to be dissipated into a warm-

er environment, a considerable volume of blood is shifted to the surface of the extremities for cooling. These changes in the volume of blood to the extremities in response to the heat dissipating mechanism are brought about through varying degrees of vasoconstriction, which is most marked in the hands and the feet, and is under the control of the sympathetic nervous system. Abnormal stimuli to this system can produce vasoconstriction that has nothing to do with the heat dissipating mechanism, is a pathological process and can be properly termed a vasospasm. Skin temperature studies⁶ have shown that tobacco smoking produces vasospasm of the vessels of the extremities, the temperatures of the tips of the fingers and toes decreasing as much as 15° F. on the smoking of two cigarettes. It is easy to demonstrate that fear, anger, and other emotional stresses also result in peripheral vasospasm.

It is difficult to evaluate the relative importance of vasospasm in peripheral vascular deficiencies due to thrombo-angiitis obliterans and arteriosclerosis. The primary le-

*From the Department of Surgery, University of Michigan. Read before the Michigan State Medical Society, Sault Ste. Marie, Michigan, September, 1935.

sion is the organic obstructing disease. During a period of acute inflammation and severe rest pain in thrombo-angiitis obliterans, a rapid play of colors and sweating of the feet is evidence of vasospasm. Little of this is seen in the less acute stages. In sudden arterial obstruction from embolism, thrombosis or trauma, the mottled bluish appearance of the extremity suggests the presence of a considerable vasospastic element. No test is needed to show vasospasm; we see its presence by direct observation.

The clearest example of a peripheral vascular disturbance, based on vasospasm, is Raynaud's disease. It is thought that the condition is a manifestation of an inferiority of the sympathetic nervous system expressed by heightened or abnormal reactions to ordinary stimuli.¹ The chief symptom is usually that of pallor of the fingers on exposure to cold, while between the attacks the digits appear to be normal. Cyanosis and sometimes rubor follow the pallor in varying degrees of irregularity and patchiness. Women constitute more than 90 per cent of the patients.

Allen¹ has emphasized the following criteria as necessary for the diagnosis of true Raynaud's disease: (1) intermittent attacks of changes of color of the acral parts; (2) symmetrical or bilateral involvement; (3) absence of clinical evidence of occlusive lesions of the peripheral arteries; (4) gangrene or trophic changes, when present, limited in large degree to the skin; (5) the disease must have been present for a minimal period of two years, and (6) there must be no evidence of disease to which it could be secondary.

The treatment advised for Raynaud's disease largely depends upon the severity of the symptoms. If there is no pain with the attacks of pallor and comparatively little increase in the extent of the involvement during the previous year, the use of contrast baths, hot soaks, vasodilating drugs, elimination of mental strain, and particularly efforts to avoid exposure to cold, may ameliorate the symptoms. If the disease appears to be progressing and the pain is considerable, a surgical attack on the sympathetic nervous system offers the best possibility of cure. In the late stages of the disease, when scleroderma, permanent cyanosis and trophic changes are present, the results of an operation on the sympathetic nervous sys-

tem are must less satisfactory, but no other treatment is known.

Vasospastic disorders of the extremities, as shown by a mottled blueness of the skin and sweating, occur secondarily to old anterior poliomyelitis, cervical rib, amputation, neuromata and arthritis. A sympathetic ganglionectomy has been of distinct benefit in well selected cases.

Organic Disease

More than 80 per cent of the patients with symptoms resulting from a lack of blood supply to the extremities suffer from an organic vascular occlusion. The chief cause is arteriosclerosis, frequently associated with diabetes mellitus. A lesser number of cases are the result of thrombo-angiitis obliterans.

A careful history from these patients frequently reveals that they had some symptoms for many months or even years before the infection or gangrene developed which ultimately sent them into a hospital. The factors precipitating the acute condition are found to occur repeatedly. There are many instances in which the feet were painfully cold for a number of hours during an auto ride or working outdoors in cold winter weather. Others lay their immediate troubles to the dropping of some heavy object on a toe, to the breaking of the skin over a pressure area by the shoes, to the paring of corns or calluses, or to the home treatment of a sore between the toes. In individuals with thrombo-angiitis obliterans, pain in a toe from ischemia has been often erroneously diagnosed as due to an ingrowing toenail, with later the development of an indolent ulcer or severe infection as a result of the surgical removal of the nail edge. Once gangrene is established in patients with organic arterial obstruction, the loss of limbs and even of life is frequent in spite of our best efforts.

It is now being realized that many of these individuals with peripheral vascular occlusion may avoid amputations indefinitely if they can avoid the abrupt damage that results from exposure to cold, trauma or infection. Also, if they can be carried over the period of emergency, they can again be restored to a circulatory balance permitting general activities, usually limited to some extent. To accomplish this purpose, it is

necessary to recognize arterial deficiency in its early stages so that the patient may be told what to do to live with his condition, and to avoid the serious acute injuries.

The diagnosis of arterial obstruction is a simple procedure in most cases, instrumental studies rarely adding information that cannot be obtained by a careful history and physical examination. Samuels⁸ has stressed the following points as indicative of incipient arterial disease in the extremities:

Symptoms:

1. Fatigue of the lower extremities after walking a few blocks.
2. Coldness of the toes of the affected foot.
3. Tingling or burning in the sole of the foot after walking a few blocks.
4. Intermittent claudication. This is often a relatively late symptom.

Signs:

1. Atrophy of the calf muscles.
2. Coldness of the extremities, particularly when unilateral.
3. Pallor of the plantar surface of the affected foot when the legs are elevated to about 45° angle and the ankles are rapidly flexed and extended.
4. Rubor of the feet on dependency.
5. Decreased amplitude of the peripheral pulses. A careful palpation of the brachial, radial, ulnar, femoral, popliteal, dorsalis pedis and posterior tibial arteries for pulsations should be a part of every physical examination. To reach the popliteal artery the patient should be lying face down with the leg flexed to 90° and supported there by the examiner so that the hamstring muscles are relaxed. In about 5 per cent of the cases the vessels at the wrist and ankles will feel to pulsate normally, the occlusion being distal to those points.

Once the diagnosis of arterial obstruction is made, the determination of whether one is dealing with arteriosclerosis or thrombo-angiitis obliterans, the two most common causes of chronic peripheral vascular deficiency, is generally not difficult. There is a great tendency to make the latter diagnosis too frequently. Buerger's disease or thrombo-angiitis obliterans is an interesting condition. We do not know why it affects Jewish individuals to a greater extent than their ratio of the population or why women are so very rarely involved. Tobacco smoking is widespread and apparently without harmful effect to the vast majority of the population, and yet here is a group of individuals who are made definitely worse by its use. The peripheral vasoconstrictor effect of tobacco smoking further reduces the already

deficient circulation in the extremities of these patients.⁶ It must be remembered, however, that hardening of the arteries is by far the commonest cause of peripheral arterial occlusion. The differential diagnosis can practically be made on age alone. Thrombo-angiitis obliterans rarely begins after 45 years of age and such a diagnosis on an individual whose symptoms began after that time should be seriously questioned. If there is evidence of a migratory superficial phlebitis one can be sure that he is dealing with Buerger's disease. The arteriosclerotic patient is generally over fifty-five years of age. Exceptions to this of course occur, and occasionally arterial obstruction on an arteriosclerotic basis is found in patients well under forty-five years of age, but usually associated with diabetes mellitus. Roentgenograms of the extremities demonstrating calcification of arteries commonly denotes arteriosclerosis.

Conservative Measures

Just what can be done in the management of patients with acute phases of arterial occlusive disease short of extensive gangrene or spreading infection, to avoid major amputations and to return the individual to a fair degree of normal activity? In the past ten years many measures have been advocated. With considerable use, some have been found to be of obvious value, while others have added little. The importance of the different forms of treatment varies somewhat with the specific problems with which one is confronted. At the University Hospital, the first nine of the following measures are employed routinely in the conservative treatment of peripheral occlusive disease and the remaining are used singly or in combination where they appear to fit the need of the case:

1. *Rest in bed:* Treatment must be continued through twenty-four hours of the day. If the patient is allowed up and about, some of the desired measures are often neglected. Rest pain is sometimes relieved by bed rest alone.

2. *Keeping the affected extremity at the level of optimum circulation* (Buerger's angle of circulatory sufficiency): Pallor of the feet on elevation and rubor on dependency has been pointed out as important signs of vascular deficiency. Obviously these positions then are not the proper ones to keep the feet in at all times. Generally when the feet are placed about 6 inches below the level of the heart, the veins fill without appearing to be distended and the toes show their most normal color. Once the

patient has been told of the importance of this position and finds the optimum level by experimenting, he is usually anxious to maintain it whenever possible. To obtain the proper position, it may be necessary to elevate the head of the bed a few inches.

3. *Hygiene of the feet:* Dirty feet are a definite hazard to these patients as shown by the greater occurrence of gangrene among those so afflicted. The patient is taught to wash his feet with a mild soap and warm water and then to dry them carefully without rubbing the skin. Emphasis is placed on keeping the spaces between the toes clean and dry. A liberal amount of lanolin ointment is then rubbed in to soften the skin and prevent cracking and fissuring.

4. *Heat:* More harm is done by the use of direct heat in the form of hot water bottles or electric pads to the feet of these patients than any possible benefit. Sensation is frequently diminished and a burn may necessitate a major amputation in a short time. Since we have shown that the "environmental response" to heat is a shift of blood to the surface of the extremities,⁴ an electric pad to the patient's abdomen and an extra blanket serves to keep the whole body warm and will result in as much vasodilatation of peripheral vessels as is possible. The legs and feet during this time are encased in flannel stockings and protected under a cradle.

5. *Hot wet dressings of saturated boric solution to control infection:* Wet dressings can be used for too long a time on these patients. The skin of the feet of these patients becomes macerated very easily so that a number of hours of exposure to the air is often advisable between the applications of the hot wet packs. Ulcers that have been open for weeks under wet dressings will sometimes heal quickly under a dry dressing. There is a tendency to keep at some of these lesions too much and not give them a chance to heal under a dry crust.

6. *Control of diabetes mellitus, otherwise a high caloric high vitamin diet.*

7. *Intake of four quarts of water a day.*

8. *Eradication of foci of infection.*

9. *No smoking.* This is absolutely advised against for patients with thrombo-angiitis obliterans; less emphasis is placed upon it for the arteriosclerotics.

10. *Therapeutic fever.* The production of fever is one of the most satisfactory methods of increasing the peripheral circulation. The body temperature can be rapidly elevated by the use of typhoid¹ vaccine or typhoid "H" antigen.² The elimination of this heat is brought about over a period of many hours by a considerable shift of blood to the surface of the extremities. This is to the advantage of the patient with arterial obstruction, since vascular channels are dilated to their maximum and reparative processes are aided. The measure is particularly applicable to individuals with thrombo-angiitis obliterans. It is not advised for the arteriosclerotics, since older patients are considerably upset by the chills, nausea and headache which occasionally occur and have been known to develop acute thromboses at that time.

11. *Hypertonic salt solution.* The use of a 5 per cent solution of sodium chloride intravenously is enthusiastically praised by Silbert⁹ in the treatment of thrombo-angiitis obliterans. The rationale of the method is on theoretical grounds only, but the number of individuals returned to their occupation and the low percentage requiring amputations certainly recommends this form of treatment, which can be carried out in an office practice. At the first injection 150 c.c. of a freshly prepared 5 per cent solution of NaCl is given intravenously into a superficial

vein. The patient usually becomes warm and thirsty during the administration, but is not materially inconvenienced and is allowed to return to work as soon as the treatment is finished. Subsequently 300 c.c. of the solution is given three times a week, later twice and once a week as symptoms abate.

12. *Block of peripheral nerves for pain.* This procedure^{10,11} is carried out for unrelieved rest pain in patients with thrombo-angiitis obliterans. When used for severe pain in arteriosclerotic occlusion it has been less satisfactory, since in several instances when no relief has been obtained by other methods a major amputation was required in a short time.

13. *The use of alternate suction and pressure.* This form of treatment designed to increase the blood flow in the extremities is about 100 years old. Since 1933, as a result of the work of Landis and his associates⁵ and Reid and Herrmann,⁷ a new interest has been aroused in its possibilities. My experience with passive vascular exercise or "Pavaex" treatment as it is called by Reid and Herrmann, is of too short a duration to judge its merit from actual observation. From important articles by competent observers and reasonable conclusions as to what can possibly be done I can present an opinion.

The most startling results have been reported in instances of acute major arterial obliteration in the extremities as by operation, thrombosis, trauma or embolism. In the hands of Reid and Herrmann a number of such patients have been returned to normal life. Frozen feet have also responded admirably to treatment. The value of "Pavaex" therapy diminishes as the far advanced stages of slowly progressing arterial occlusion are reached. The vessels here have not only no, or abnormally small, lumina, but also their walls are more or less rigid owing to structural changes so that they are unable to dilate. Little can be expected from variations in pressure in such instances. Intensive "Pavaex" therapy has relieved rest pain and healed indolent ulcers in many instances. Deeply extending gangrene or large sloughs involving the forefoot have not been benefited. There is a fairly large group of patients with peripheral arteriosclerosis associated with diabetes mellitus who enter the hospital with infections and gangrene limited to toes. The fact that the forefoot is not involved is evidence of a fairly good arteriolar bed. Some pulsation can often be felt in the dorsalis pedis or post-tibial arteries. Following a guillotine amputation of the involved toe, "Pavaex" has resulted in a more rapid healing of the wound than it was customary to see without its use.

"Pavaex" therapy is being used with caution for patients with thrombo-angiitis obliterans. During the acute phase when there is severe rest pain and superficial phlebitis, the massaging action of suction and pressure

may do harm and is not advised. When the pain is slight and the inflammatory process less evident, "Pavaex" therapy has been beneficial.

The use of positive and negative pressure in the treatment of peripheral vascular disease is not a cure-all and was never presented as such by its proponents. With the rather widespread placing of equipment at the present time one may soon expect numerous reports tending to establish the place of this form of physical therapy among the non-operative methods of treating peripheral vascular diseases.

At various times the use of vasodilating drugs, diathermy, ligation of the femoral vein or artery, and sympathetic ganglionectomy have been used in the treatment of patients with progressive vascular occlusion, but with no evidence that the procedures were of real value.

The list of conservative measures given is impressive, but in spite of carrying them out with the greatest of care, the results are often discouraging. This is due in part to the fact that many of the patients seen have far advanced arterial occlusion. For some of them conservative measures are clearly contraindicated. A major amputation is needed and the sooner it is done the better. When the conservative treatment is used, constant vigilance is necessary in following the progress of the patient. The foot lesion may become worse and there is always the possibility of a rapid spread of infection with a forced amputation under adverse conditions and an ultimate higher mortality.

Home Care

It is important that the patient should know what can be done in his routine living to prevent the occurrence of a serious crisis in a chronic peripheral vascular deficiency. Usually his activities are restricted to some extent by the disability present, so that he is concerned about his condition and will do whatever is advised. The following instructions are given by us to ambulatory patients:

Instructions for Care of the Feet.—Because of the diminution in the blood supply to your feet, continued special care is necessary to prevent serious difficulties. The following measures are recommended:

1. Wash the feet each night with mild soap and warm water. Be particularly careful about the spaces between the toes.

2. Dry the feet carefully without rubbing the skin and then gently massage them with vaseline or lanolin ointment.
3. Keep your feet warm at all times. Wear long, heavy underwear. Use a clean pair of woolen socks each day in winter and white cotton socks in warm weather. Extra footwear, such as galoshes, will help in winter.
4. Protect your feet from injury at all times. Wear properly fitting shoes and be particularly careful that they are not too tight.
5. Wear loose fitting bed socks at night. Do not apply hot water bottles or an electric pad to your feet; a burn is serious.
6. Toe nails should be cut straight across. Do this in a good light after the nails have been softened by a 20 minute soak in warm water.
7. Do not cut your corns or calluses.
8. Drink three to four quarts of water daily.
9. Eat a liberal diet with plenty of fresh vegetables. If you have diabetes, follow the instructions in that regard faithfully.
10. Do not wear circular garters.
11. Carry out the leg and foot exercises as prescribed.
12. Follow the advice about tobacco.
13. If anything unusual develops, a blister, infection, an ingrowing toe nail, or trouble with bunions, corns or calluses, see your doctor immediately.

Real progress in the care of peripheral vascular deficiencies will result from an earlier diagnosis of the disease, a realization of the seriousness of the condition, and the carrying out of measures to maintain the circulatory balance and prevent the critical damage of cold, infection or trauma.

Bibliography

1. Allen, E. V.: Diseases of peripheral arteries. Jour. Kansas State Med. Soc., (April) 1935.
2. Barker, N. W.: Typhoid "H" antigen. Further observations on non-specific protein therapy in peripheral vascular disease. Proc. Mayo Clinic, 5:267, 1930.
3. Collier, F. A., and Maddock, W. G.: The function of peripheral vasoconstriction. Ann. Surg., 100:983, 1934.
4. Collier, F. A., and Maddock, W. G.: The differentiation of spastic from peripheral vascular occlusion by the skin temperature response to high environmental temperature. Ann. Surg., 96:719, 1932.
5. Landis, E. M., and Hitzrot, L. H.: The clinical value of alternate suction and pressure in the treatment of advanced peripheral vascular disease. Am. Jour. Med. Sci., 189:305, 1935.
6. Maddock, W. G., and Collier, F. A.: Peripheral vasoconstriction by tobacco and its relation to thromboangiitis obliterans. Ann. Surg., 98:70, 1933.
7. Reid, M. R., and Herrmann, L. G.: The non-operative treatment of peripheral vascular diseases. Ann. Surg., 102:321, 1935.
8. Samuels, S. S.: The diagnosis of incipient arterial disease in the extremities. Health Examiner, (Oct.) 1933.
9. Silbert, S.: Thromboangiitis obliterans. Treatment of 524 cases by repeated intravenous injections of hypertonic salt solution. Surg., Gynec. & Obst., 51:214, 1935.
10. Silbert, S.: A new method for the treatment of thromboangiitis obliterans. Jour. A. M. A., 79:1765, 1922.
11. Smithwick, R. H., and White, J. C.: Peripheral nerve block in obliterative vascular disease of the lower extremity. Surg., Gynec. & Obst., 60:1106, 1935.

SUBPECTORAL ABSCESS

Suppurative Infraclavicular Lymphadenitis with Report of One Case

ROBERT D. SCOTT, M.D.†

FLINT, MICHIGAN

WE ARE all familiar with the lymphatic involvement which is secondary to infected fingers, and usually look for swelling and tenderness in the epitrochlear and axillary lymph nodes. There is a condition which is not generally known, on account of it being very uncommon. This is a lymphatic metastasis to the infraclavicular nodes, without any swelling of the axillary or epitrochlear lymphatic glands.

The usual symptoms are as follows: There is a history of an injury or infection to one of the fingers. This may be so slight that it may be overlooked, unless the patient is questioned about it. Several days later the patient will complain of soreness, stiffness, aching or pain in the region of the shoulder. Pain on pressure will be noticed just below the middle of the clavicle. Abduction of the arm is painful, usually extremely so. These symptoms will continue for several days with little or no swelling. The fever at first is not high, running from 99° to 101°.

I think it would be well to go over the lymphatic drainage of the upper extremity. The lymphatic nodes of the arm are, for the most part, confined to its upper portions, the principal group occurring in the axilla. These glands receive almost the entire lymphatic drainage of the arm as well as the anterior and lateral thoracic walls, from the mammary gland and from the scapular region.

The epitrochlear node or nodes lie about 3 or 4 cm. above the trochlea and receive some of the afferent vessels from the ulnar fingers and the ulnar portion of the hand. However, some of these lymph vessels from this area empty directly into the axillary nodes.

Another group, which is called the delto-pectoral group, consist of from one to four nodes, situated in the groove between the deltoid muscle and the clavicular portion of the pectoralis major.

The infraclavicular group consist of from six to twelve nodes situated near the axillary space, partly beneath the pectoralis minor and partly above the upper border of that muscle. They constitute the final link in the chain, since they receive as afferents, either directly or indirectly through the intermediate nodes, the efferents from all the other sub-groups. The only direct afferents they

receive from the upper extremity is the satellite trunk from the cephalic vein.

The efferents from the infraclavicular group unite to form a trunk of considerable size, the subclavian trunk, which, from its origin opposite the first intercostal space, passes almost vertically upward over the subclavian vein to open into it near its junction with the external jugular, or else to unite with the jugular trunk on the right side or to open into the arch of the thoracic duct on the left side. It is clear, then, that when the organisms fail to be stopped by the axillary nodes and reach the infraclavicular nodes, and when these nodes suppurate, it is a serious condition, as these nodes are the last barrier, and the organisms are likely to reach the general circulation, and result in septicemia.

The pus forms in large amounts, after the nodes have broken down. It does not come to the surface early, on account of its location beneath the pectoral muscles and fascia, but spreads out laterally, and may invade the axillary region, or even the subscapular region, as in a case reported by David Straus. It may also penetrate the intercostal muscles and pleura and enter the pleural cavity, or follow the large vessels and reach the supraclavicular fossa, as in a case reported by Levy. What I am trying to point out is that there is very little tendency for the pus to become superficial, and so it is clear that early surgical intervention is necessary.

The diagnosis of this condition is easy, as the history and physical findings are usually the same in all cases.

The usual symptoms and physical findings are:

1. Fever, if seen early, is mild, from 99° to 101°. Later it may be of the septic type, and may reach 103° or 104°.

†Robert D. Scott, M.D., is a graduate of Detroit College of Medicine, 1911. He practices in Flint, Michigan, and at present is president of the Genesee County Medical Society.

2. Any attempt at abduction of the arm causes pain, and it is usually held quiet and adducted.

3. Pain on pressure just below the middle of the clavicle.

4. There is usually some swelling over the upper outer part of the pectoralis major muscle.

5. There may be present an infection of the hand or one of the fingers. If not present we can usually bring out the fact that some time previous the patient had such an infection or abrasion.

The treatment of this condition is early incision and drainage. Even if we do not find pus, we can be sure it will appear as soon as the glands have broken down, and will drain through our incision, if properly placed.

The technic is as follows: The patient should have a general anesthetic. Abduct the arm. Make the incision along the outer border of the pectoralis major muscle, high in the axilla. Expose the outer border of the muscle and incise the axillary fascia. Then, with the gloved finger, dissect under the muscle. If the case has advanced to suppuration, we will now enter the abscess cavity. If done early we will encounter nothing except some serous fluid or edema of the soft parts. In either case the treatment is the same. We must open wide and provide good drainage.

One point should be noted. Do not use the needle in these cases in an attempt to

find pus. The needle might enter the pleural cavity, carrying the infection with it, or might enter the subclavian vein, which is in close proximity to the infected glands.

Case 1.—Mrs. M. E., aged forty-seven, was well until June 10, 1935, when she began to have pain in her right thumb. I was called during the evening of that date, and found that the right thumb was swollen on the palmar surface of the distal phalanx, and painful on pressure. I advised incision of the swollen area but patient refused. Two days later I was called again, and found the thumb swollen more, and incised it. This gave her some relief, but there was very little drainage from the thumb during the next week. On June 18, she began to have pain in her right shoulder and below the right clavicle. On June 21, she could not move her right arm away from her side without causing pain, and the pain continued around the right shoulder and the upper part of the right chest. Her temperature during this time was between 99° and 101°. She entered the hospital on June 24. Her temperature on admission was 101°, pulse 96, and respiration 22. The following day, under nitrous oxide and ether anesthesia, the anterior part of the right chest and the right axillary region was prepared with tincture of iodine. An incision was made, about four inches long, along the outer border of the right pectoralis major muscle. The right index finger was inserted under the pectoralis muscle and entered the abscess cavity. All of the septa were broken down by sweeping the finger around, underneath the muscle, allowing about six ounces of pus to escape. Glove drainage was inserted into the abscess cavity. Her temperature the following day was 102°. For the next five days it was usually about 98° in the morning and 100° at night. From July 2 to her discharge from the hospital on July 5, her temperature was normal. She was entirely recovered by July 16.

Bibliography

Straus, D. C.: *International Surgical Digest*, (November) 1935.

Therapeutic Results With Ketogenic Diet In Urinary Infections

Henry F. Helmholz, Rochester, Minn. (*Journal A. M. A.*, Sept. 7, 1935), believes that the ketogenic diet in childhood is to be reserved for infections that do not respond to simple therapeutic procedures. To treat every child who has an acute urinary infection with the ketogenic diet would be entirely unnecessary. The majority get well and the urine becomes sterile with the usual alkalization and forcing of fluids. In some cases it later may be necessary to give ammonium chloride and methenamine for a short time. A small group remains in which there is no obstruction of the urinary tract but in which the infection becomes chronic in spite of the usual types of treatment. The infection will usually clear up promptly as a result of administration of the ketogenic diet. The author has tried the ketogenic diet in a series of twenty-four cases of infection of the urinary tract without obstruction. In some of these cases the infection probably would have been cleared up just as readily by other means as it was with the diet, but in order to test out the efficacy of this new mode of treatment the dietary treatment was used. In all cases in which the necessary concentration of beta-oxybutyric acid and the proper pH could be obtained, the urinary infection

cleared up very promptly. There were several instances in which the urine was sterile after forty-eight hours. In a number of these cases, ammonium chloride and methenamine had been tried without success. In the fifteen cases in which there was no return of the infection, the cure was often extremely rapid. In six cases there was a marked tendency for the infection to relapse. Three of these patients lived near the clinic and the various recurrences of the urinary infection could be followed for a period of years. The urine of two other patients was sterile when they left the clinic but the infection recurred soon after they arrived home. Another patient returned in six weeks for a second dietary treatment and has not had a recurrence of the infection for about a year. In three cases a proper ketosis or a low pH could not be obtained in spite of the fact that the children took the diet without difficulty. In a series of twenty-one cases of urinary infection in which there were a great variety of severe obstructive lesions of the urinary tract, six patients have remained free from infection for a period of time after discontinuing the diet, in five there has been a recurrence after a period of freedom from infection after discontinuing the diet and in ten cases it was impossible to influence the infection at any time.

WHAT THE PUBLIC EXPECTS FROM THE MATERNAL HEALTH LEAGUE*

HAROLD A. FURLONG, M.D., F.A.C.S.†
PONTIAC, MICHIGAN

THE remarks I have to make on this occasion will be very brief. During the past six years, the Maternal Health League of Michigan pioneered in a much needed Birth Control movement. The growth has been steady, sound and properly sponsored. The movement has passed from the stage of speculation into the realm of accomplished fact. The public has accepted and supported the Maternal Health League, and because of that support we have a responsibility to discharge?

Social problems are born out of a complexity of human affairs, and do not spontaneously arise. For centuries, probably as long as the human race has endured, control of contraception has been a problem. Lest the recent Birth Control movement be considered by the uninformed to be a modern innovation, let me say that it had its roots in antiquity, and is so recorded in scientific history. Modern civilization has only made the realization of this problem more acute. We are appalled by the toll of human lives lost annually by ill-considered attempts to adjust this problem of family size and family income. Legendary and unscientific methods having failed, the average family turns to abortion—self-induced or criminal—with the result that it is estimated that 8,000 American mothers die annually from causes attributed to abortion. This constitutes half the annual deaths of 16,000 from causes associated with childbirth. Some medical authorities estimate as many as one million abortions are performed each year.

Death, illness or economic loss from causes attributed to abortion certainly must shake the foundation of family life in many homes if these figures are true. Established clinics have already revealed that it is married women from twenty-five to forty years of age, after several children have been born, who resort to abortion. In our own local clinic, during 1935, the average number of pregnancies per client, who sought advice, was 5.7; the average number of living children was 4.6. Another interesting fact that clinic research has established is

that clinics are not offering unwanted advice to their clients, as most of them have already tried the usual contraceptive measures without success. Again, in our clinic, 61.8 per cent of our patients gave a history of using some device or measure to prevent conception.

For years we have refused to face scientifically this social problem, until the movement has surged up from the general public. Within the last decade such organizations as this have met the challenge and are now embarked on a constructive program. As I previously remarked, we have a responsibility to discharge because of public support and demand. In my opinion the public has definite expectations of this group which we may well acknowledge.

First of all, the public expects leadership. That leadership has been furnished in this State by an enlightened group of sponsors, lay and medical, who have not been afraid to organize, support and publicize their work, avoiding stunts and controversial squabbling. No movement as worthy as the Maternal Health League profits by undignified debates between opposing groups. The issue becomes lost in the clash of personalities. So little is yet known of the science of this subject that polemics offer little real value. More value to the cause will come from scientific leadership and the public expects it.

Secondly, a broad educational program is expected, directed towards the research laboratory and the agencies in contact with the public. From the scientific angle too little has been known about contraception. Much is to be done in the laboratory yet. It is a strange anachronism that modern medicine has progressed so far and yet neglected this important field of science. The best interests of all concerned are served if the

*This address was delivered at the annual meeting of the Maternal Health League of Michigan at Hotel Hays, Jackson, Michigan, January 30, 1936. Dr. Furlong is chairman of the medical advisory committee of the league.

†Dr. Furlong was graduated from the University of Michigan Medical School in 1924 and took post-graduate work in Obstetrics and Gynecology and entered private practice in 1929. He is a Fellow of the American College of Surgeons, 1931, Chairman of the Section of Obstetrics and Gynecology of the Michigan State Medical Society in 1934 and at present a member of the committee on Maternal Health, Chairman of the Advisory Board of the Maternal Health League of Michigan. His private practice is limited to Obstetrics and Gynecology.

medical profession acts as the purveyor of contraceptive advice as a part of its preventive medicine program. This means that medical students must be taught contraceptive information, and many medical colleges are now doing that very thing, and physicians in practice must be furnished with the latest information from medical centers, and organized medical groups must be contacted.

These things are already started in many localities. I believe the public even looks to a broader program than one just concerned with the control of families. The organized medical groups have been fighting a lone battle to reduce maternal mortality and certainly ought to welcome the aid of a lay group, such as this, to augment their forces. Many social service and governmental agencies in contact with underprivileged homes are looking to this organization for help in their problems among the poor, so that close contact should be maintained between the Maternal Health League and other social agencies.

The legislation situation dealing with the dissemination of information and supplies has not been entirely clarified. The sponsors of the Michigan program can be very helpful in working with other groups to alter the Federal and State laws which now act as a barrier to action in some localities.

The public expects sound advice to be available for the lawmaker as an aid in this field.

The public does not want sensational entertainment from us. It wants sober, constructive help to meet threatening social problems of fundamental importance in maintaining family life. The groups calling loudly for our help are the mothers shuddering under the spectre of unwanted babies to feed and clothe. We have already demonstrated that we are not interested in unmarried clients. We might well be interested in the broad subject of education in sex hygiene but that is a matter for future consideration.

There is a certain danger in over-enthusiasm. Many socially-minded people are a little prone to deny the right of parenthood to the poor. Poverty is not a crime, and parenthood among the poor is not to be so regarded. The element of voluntary use of contraceptive advice by women is to be respected as it has been in the past.

I would advocate a conservative program embracing scientific research, the accumulation of data, the continuation of educational work among social agencies, and careful sponsorship under medical guidance, giving the public the desired help without sensational publicity or commercial exploitation, in other words, continuation of the present laudable endeavor.

NOMINAL OR AMNESIC APHASIA WITH REPORT OF A CASE*

HYMAN S. MELLEN, M.D.†

and

ISAAC L. POLOZKER, M.D.‡

ELOISE, MICHIGAN

SPEECH may be defined as a means of communication between human beings. It depends upon a comprehension of thought, the elaboration of this thought, and finally upon its expression. Aphasia is simply a disorganization in the domain of speech. The disturbance may be in any one or all of the dependent components. Head feels that speech is a highly intellectual process, terms it "symbolic thinking," and, unlike many of his predecessors, he does not feel that the divisions of speech are capable of independent existence in circumscribed areas in the cerebrum.

It is in the idea of cerebral localization that most of the argument concerning aphasia has arisen. It was Gall, early in the nineteenth century, who first suggested the

idea of cerebral centers for localization of various functions. He reported a case of aphasia with injury to the inner and posterior portion of the left "anterior lobe" of the brain. Bouilland continued this work of cerebral localization. He stated, "It is important to distinguish the two causes

†Dr. Mellen is a graduate of Wayne University College of Medicine, June, 1933. He is Resident in the Departments of Internal Medicine and Neurology at Wm. J. Seymour Hospital, Eloise, Michigan.

‡Dr. I. L. Polozker, who was Attending Neurologist in Seymour Hospital, died August 21, 1935.

which may be followed by loss of speech, each one in its own manner; one by destroying the organ for the memory of words, the other by alteration of the nervous impulse which presides over the movements of speech."

In 1861, Broca gave a complete anatomical account of the lesion in a case of aphasia. He considered that the condition was the result of a lesion in the posterior third of the second and third frontal convolutions.

It is with this latter concept that Hughlings Jackson and, after him, Henry Head, disagree most strenuously. Both approach the problem of aphasia from the psychological rather than the anatomic or physiological angle. The rigid conception of centers is not warranted if one is to accept the clinical experience of Head. In his work he has shown that no case of aphasia ever presents circumscribed speech defects. It can be shown, after careful study, that in every case varying defects of all types exist, although one type usually predominates.

Before we can continue further in a discussion of types of aphasia, we must make clear the various classifications which have arisen.

If speech conception is entirely lost, complete aphasia is said to exist. However, this condition is of rare occurrence and, therefore, a more minute study is essential. If the patient can hear but does not know the meaning of words, word-deafness is diagnosed. If, on the other hand, the defect is in understanding written language, the condition is known as word-blindness, alexia, or visual aphasia. Auditory and visual aphasia together constitute the sensory aphasia of Wernicke.

If, on the other hand, the defect is in the actual production of the spoken word, it is designated as the motor aphasia of Broca. Motor defects also occur when the patient cannot write a word although he knows what he desires to write.

From these concepts of speech formation and speech production has arisen the idea that each one of these lesser faculties of speech has a fixed center in the brain. Thus, centers are said to exist which, when affected, give "pure" motor aphasia, "pure" sensory aphasia, "pure" alexia, and so forth. With this as a basis, aphasia has been further subdivided into cortical motor, subcortical motor, cortical auditory, subcortical auditory, cortical alexia, subcortical alexia, and

into transcortical varieties of each, depending upon whether the centers themselves are involved, the peripheral fibers from them, or the fibers between the sensory and motor centers are involved.

With all of this elaborate anatomical scheme little actual pathological material has been brought forth to prove definitely such a concept. And, what is far more important, no case can be brought forth which actually falls into any one type of aphasia. All that can ever be said for these cases of aphasia either clinically or at autopsy is that they are "mixed aphasias." Apparently, our knowledge of speech centers, association traits, and the physiology of the cerebrum in general is too scant to definitely name a type of speech defect and accurately localize the pathology associated with it.

Now to return to our original definition of speech and aphasia. We said that speech is dependent upon a comprehension of thought, its elaboration, and its expression. Aphasia, we said, is simply a disorganization in this cycle. It is quite true that the disorganization may be in any phase of the development of the thought but clinically it is usually or at least quite often difficult to ascertain where the disorganization has occurred. To localize thought processes in the cerebrum is ridiculously impossible, and so to localize definitely aphasia, which is a thought process, is also out of the question.

It is from this psychological angle that Henry Head has approached the problem. He defines aphasia as a failure in a greater or lesser degree of "symbolic formulation and expression." He maintains that before speech can result there must be a formulation of a symbol—a sort of internal speech—and then, from this, external or audible speech results. To localize this thought mechanism is purely arbitrary and useless. He discards previous classifications and ideas of circumscribed speech areas in the brain and presents one which is entirely based on language concepts.

1. *Verbal defects.*—This is a disturbance of external speech. Vocabulary is limited and those words which are retained are mispronounced. The patient is cognizant of his errors (he symbolizes well) but cannot express himself correctly.

2. *Nominal defects.*—There is a want of power to discover appropriate names, or to find categorical terms in which to express a situation. The patient possesses plenty of

words, but he cannot apply them exactly and verbal form may suffer in his efforts to discover the correct name.

3. *Syntactical defects*.—This is a more or less gross disorder of rhythm and syntax. The patient speaks rapidly, his speech is jargon and prepositions, conjunctions, and articles tend to be omitted. Polysyllabic words are badly mispronounced.

4. *Semantic defects*.—There is a lack of recognition of the full significance of words and phrases apart from their immediate meaning. There is a "loss of memory for words." The patient can utter words, even in syntactic order, but he does not apprehend their significance.

This classification of Head is one of the latest to appear in the explanation of the interesting condition of aphasia and probably the most acceptable with the least chance for disagreement.

From cases cited in his work on this problem, Head has attempted to localize lesions giving these four types of aphasia. He stresses the fact that in "attempts to correlate site of structural change with defects of function, it must never be forgotten that the severity and acuteness of the lesion exert an overwhelming effect on the manifestations." Speech does not arise in any of the "centers" of the brain. It is a result of higher intellectual activity of which we have little concept. No function is "localized" strictly in any part of the cortex, and the destruction of this part of the cortex does not abolish the function. A destructive lesion in one of these "centers" throws a highly organized function into disorder. The function is hindered or blocked and a new adjustment occurs, which results in what we call the abnormal response, in our case, *aphasia*.

Now, Head, from clinical data, has localized, more or less, these points of hindrance which give the abnormal responses, or types of aphasia, which he has classified. He agrees that the speech zone is on the left side of the brain in right-handed individuals. The more definitely the injury destroys the lower portion of the pre- and post-central convolutions and the parts beneath them, the greater the probability that the speech defect will be of the "verbal type." A lesion in the upper convolutions of the temporal lobe will tend to result in the disorders of the "syntactical type." Disorders occurring in the

supra-marginal gyrus result in the "semantic" aphasia. Lesions in and around the angular gyrus and posteriorly are associated with "nominal aphasia."

The recently deceased Theodore H. Weisenburg, in an extensive survey of the cases of aphasia in Philadelphia, reached some interesting conclusions. Although he does not disagree with Head's classification cited above, he offers a somewhat simpler and possibly a more easily applicable classification.

He divides aphasia into (1) expressive, (2) receptive, and (3) expressive-receptive. By expressive aphasia is meant those disturbances of speech or writing in which the expression is at fault. This can be further subdivided into defects in articulation; and amnesic aphasia, in which there is difficulty in evoking words such as names for objects, things, persons, etc. Receptive aphasia, as the name implies, merely implies a difficulty in understanding or a lack of recognition of words and phrases, or of objects. Expressive-receptive aphasia is a combination of the two conditions.

Like Head, Weisenburg speaks of localization merely in generalities. He agrees that aphasia is associated with lesions on the left side of the brain in right-handed individuals, but does not describe a circumscribed speech center. Expressive aphasia occurs in lesions of the anterior part of the brain. Receptive aphasia is associated with lesions in the anterior portions but there also is quite likely to be lesions further posterior, i.e., in the parietal and temporal regions. Expressive-receptive defects naturally are associated with combinations of lesions or in the fibers between them. Weisenburg closes his studies with the idea that speech, written or oral, is a psychic process and a product of the activity of the brain as a whole, and localization, although fascinating, is not accurately possible.

In sixty cases of aphasia, Weisenburg found twenty-six cases of expressive aphasia, seventeen of receptive aphasia, twelve of the expressive-receptive type, and five of the amnesic variety.

Recently, in our Neurology service, we encountered a case which brought home to us the hopelessness of attempting to clarify the entire problem of aphasia, and, because he presented a rather rare clinical picture, we decided to present his case in full.

W. G., a right-handed, white man, aged forty-seven was admitted to the neurology service of the Seymour Hospital, Eloise, Michigan, on March 5, 1935, by transfer from the Detroit Receiving Hospital. His transfer diagnosis was "cerebro-vascular accident." The physical findings as described on the transfer record were "weakness of right side." On admission to our hospital, he gave a history of a "stroke" on January 31, 1935, followed by a period of three weeks for which he had no remembrance. When he regained consciousness he had a weakness of the left side and was "muddled" mentally. Since that time he felt that he had improved. He spoke with a fair amount of coordination but he frequently interjected words which had no definite place in the sentence as stated. When viewing an object he was not able to tell the name of it although he knew its use and could employ it. He frequently called an object by its wrong name, and when told the name of the object he would use that name to designate some new object when it was shown to him. He realized that he was making these errors but could not rectify himself. He had no similar difficulty in repeating simple phrases or reading them. He could recognize colors and name them. Likewise, he had no difficulty in recognizing and naming numbers.

It was quite significant that when shown a playing card which he was using at the time the examiner approached him, he could not name the object he was holding. However, when he was asked, "What are you doing?" he readily replied, "Playing cards." Immediately after this, the card was pointed out to him and the question, "What is this?" asked, and the reply was, "I know what it is but I can't say it."

In naming other subjects similarly familiar to the patient, like experiences were encountered. A fountain pen was shown to the patient on numerous occasions and after much hesitation each time, he would call it a "hand lathe," and, then immediately say, "No, it isn't a hand lathe; you write with it, but I can't remember its name." Likewise he could not name a safety pin, shoes, bed, and numerous other objects.

The tests suggested by Head were used in this case to determine the degree of disturbance. Particularly enough, although he had such intense difficulty in naming familiar objects, he had no trouble in naming and recognizing colors. In attempting to repeat after the examiner the phrase, "The man, the dog, and the cat," he repeatedly said, "The man, the dog, and the mat" instead. He had no difficulty in telling the correct time on the clock, nor in placing the hands at any named hour. He could place his finger to various parts of his body at the command of the examiner, but had slight difficulty in naming the parts when they were pointed out to him, but this manifested itself only in hesitancy which he overcame by care. He wrote and repeated the alphabet with ease, and he wrote and recognized numbers rapidly. Likewise, his attempt at spontaneous drawing of named objects or copying of simple figures were quite within the range of normal. The past history of the patient revealed a right-sided cerebral hemorrhage two and a half years prior to the present illness unassociated with the aphasia, but there had been some residual weakness on the left side which the recent stroke had exaggerated.

The physical examination revealed a well-nourished and well developed white man, not acutely ill. There was a facial weakness on the left. Pupils reacted to light and accommodation. The fundus

revealed segmental narrowing of the arterioles with an arteriosclerosis grade III. The ears, nose, and throat were essentially negative. Lung fields were clear and resonant. The heart was enlarged to the left and downward. There were no murmurs but the second aortic sound was accentuated. Blood pressure, 190/100. Examination of the abdomen gave negative findings. Rectal and genitalia examination revealed no pathology.

Neurologically, he presented grossly the findings of a right intracranial accident with hyperactive reflexes on the left, and evidence of a right upper motor neurone lesion, characterized by a positive Hoffmann and Babinski on the left. There was a suggestion of a positive Babinski on the right which was not conclusive. There was no clonus.

Our conclusions were a right cerebral accident plus a nominal aphasia of Head, or, if one follows Weisenburg's teachings, an amnesic aphasia, but we are at a loss to explain a speech defect with a cerebral accident on the right side in a right-handed individual if we consider only one lesion.

There are several ways to explain this occurrence, none fully satisfactory.

1. The recent "stroke" occurred on the left side and all of our findings are those of the previous accident. In doing this we disregard the patient's story that upon recovering consciousness there was a definite weakness on the left which was not present prior to the recent accident. In doing this we accept the transfer record of "weakness on the right side" which we could not find.

2. This patient might have the rather rare condition of uncrossed pyramidal tracts giving him a left hemiplegia plus aphasia.

3. It appears to us that probably the best explanation for the condition is that the patient demonstrates how vague is our knowledge of the exact nature and anatomical location of lesions causing aphasia. It is not beyond the realm of reason, in fact, it appears quite plausible to us, that this patient could have a lesion on the left side of the brain sufficient to give him his aphasic symptoms concomitant with his accident on the right side which resulted in a hemiplegia. The left sided accident could be quite minute and result in his very limited and unusual type of aphasia. Physiologically, one could postulate a right-sided thrombosis resulting in a previously diseased vessel when the blood pressure fell as a result of a left-sided hemorrhage, or merely an exudation through the cerebral vessels which was more profuse on one side than on the other.

But to name any definite site is useless and impossible. It suffices to say that because of a vascular accident, probably on the left side of the brain, our patient had a disorganization in his domain of speech, which manifested itself in a nominal or amnesic aphasia.

Bibliography

- Head, Henry: *Aphasia and Kindred Disorders of Speech*. MacMillan Co., 1926.
 Wilson, S. A. Kinner: *Aphasia*. Oxford Medicine, Oxford U. Press, N. Y., 1932.
 Lowell, Harold W., Waggner, Raymond W., and Kahn, Edgar A.: Critical study of a case of aphasia. *Am. Jour. Neurol. and Psych.*, p. 1178, (November) 1932.
 Zaeker, Konrad: An analysis of disturbed function in aphasia. *Brain*, 57:109, (June) 1934.
 Weisenburg, T. H.: A study of aphasia. The Charles K. Mills Memorial Lecture. *Arch. Neurol. and Psych.*, 31:1-33, (January) 1934.

THE PATHOGENESIS AND TREATMENT OF SUBCUTANEOUS EDEMA*

GORDON B. MYERS, M.D.†
 DETROIT, MICHIGAN

EXTENSIVE clinical investigation during the past few years has confirmed and elaborated upon Starling's concept of the pathogenesis of edema.³⁰ It is my purpose to review the recent advances in this field^{3,5,9,16,26} with particular reference to their practical application in the diagnosis and treatment of edema.

Formation of Tissue Fluids in the Normal Individual

The normal capillary wall is impermeable to plasma protein and, as a consequence, tissue fluids are practically protein-free.¹⁰ On the other hand, it permits water and salts to pass freely from the capillaries into the tissue spaces or from the tissues back into the capillaries. The direction actually taken depends largely upon the balance between two forces: (1) the capillary blood pressure which tends to drive water and salts out into the tissues, (2) the hydrophilic power of serum protein (oncotic or colloidal osmotic pressure‡), which tends to draw them back into the capillaries.

Accurate measurements of capillary blood pressure have been made by inserting a minute cannula with manometer attachment into a nail bed capillary with the aid of a microscope.¹⁹ The average pressure at the arterial end of the capillary is 32 mm. Hg., and at the venous end 12 mm. Hg. The oncotic pressure exerted by 1 gm. of albumin per 100 c.c. is 5.5 mm. Hg. and that of 1 gm. of globulin per 100 c.c. is 1.4 mm. Hg.¹¹ Since normal blood plasma contains an average of 4.5 per cent albumin and 2 per cent globulin,^{25,27,34} its oncotic pressure is approximately 27.5 mm. Hg.

At the arterial end of the capillary, blood pressure (32 mm.) exceeds oncotic pressure

(27.5 mm.) and as a consequence water and crystalloids are forced out into the tissues. At the venous end, oncotic pressure (27.5 mm.) normally exceeds blood pressure (12 mm.), hence water and crystalloids are drawn back into the blood stream. As long as such a balance in pressure exists, absorption of tissue fluids keeps pace with their formation and edema does not occur.

Pathogenesis of Edema—Physiological Aspects

If the blood pressure at the venous end of the capillary is raised or the oncotic pressure lowered sufficiently to reverse their normal relationship, tissue fluid will be formed instead of absorbed at the venous end of the capillary. When sufficient fluid has accumulated in the tissue spaces to produce a swelling that pits upon pressure, edema becomes manifest clinically. According to its pathogenesis, edema may be divided into two types:

1. *Edema due to rise in venous pressure.* Interference with the venous circulation, as in cardiac decompensation and thrombophlebitis, leads to an increase in pressure in all distal veins and capillaries. If the blood pressure at the venous end of the capillary rises above the oncotic pressure, edema develops.

*From the Department of Internal Medicine of Wayne University.

†Dr. Myers was graduated from the University of Michigan in 1927. He is an assistant professor of clinical medicine at Wayne University.

‡The term, oncotic pressure, is used as a synonym of colloidal osmotic pressure and is merely an expression of the affinity of colloids for water.

2. *Edema due to fall in effective oncotic pressure.* The effective oncotic pressure is represented by the difference in osmotic pressure of the plasma and tissue fluid proteins. Normally, the tissue fluid protein is negligible, consequently the effective oncotic pressure is practically the same as the actual pressure of the plasma proteins, which averages 27.5 mm. Hg. Approximately 90 per cent of this figure is due to the albumin fraction and only 10 per cent to globulin. When the capillary wall is damaged, it becomes permeable to protein. The albumin molecule is smaller and passes into the tissue spaces more readily than globulin. Thus, marked changes in effective oncotic pressure are usually due to changes in the albumin fraction of the plasma or tissue fluid.

(a) *Edema due to fall in plasma albumin.* This is usually the result of an inadequate diet or an excessive albuminuria. Whenever the plasma albumin is below 2.5 per cent, edema is generally present.

(b) *Edema due to escape of albumin into the tissue fluids.* This is usually due to capillary damage. In lymphatic obstruction, a comparable situation arises from the damming back of albumin-rich lymph into the tissue spaces. The osmotic pressure of the tissue fluid albumin opposes that of the plasma protein. If the tissue fluids contain more than 2 per cent albumin, the effective plasma oncotic pressure is reduced sufficiently to permit edema.

Rate of accumulation of edema. A reversal in pressure relationships in the venous loop of the capillary is largely responsible for the development of edema. The amount accumulating and the rapidity of formation are affected by at least six other factors.

(a) *The salt intake* is the most important of these.^{8,28} Whenever reversed pressure relationships are established, most of the ingested salt is forced out into the tissues along with enough water to form a fluid approximating Ringer's solution. Since the average diet contains 5 to 15 gm. of salt daily, as much as 0.5 to 1.5 liters of edema fluid may accumulate daily if restrictions are not imposed. The hydropigenic constituent of salt is the sodium, not the chloride ion, as shown by the fact that other sodium compounds such as the bromide¹³ and bicarbonate¹⁴ will increase edema, whereas certain chlorides, such as potassium and ammonium chlorides, are valuable diuretics.

(b) *Reaction of the dietary ash.* A basic ash favors water retention whereas an acid ash promotes diuresis. In edematous nephritics who were gaining weight steadily on a basic ash diet, diuresis could be induced merely by acidifying the diet with dilute hydrochloric acid.²²

(c) *Posture.* The more dependent the part, the greater the hydrostatic pressure at the venous end of the capillaries and the more rapid the accumulation of edema. Posture influences the distribution of all types of edema, but in particular that occurring in cardiac decompensation.

(d) *Tissue pressure.* Edema has a predilection for loose tissues, such as the face and eyelids and is slight or absent where the skin is tightly adherent, as in the palms and soles. As edema increases, tissue pressure rises. Since tissue pressure opposes capillary blood pressure, the rate at which edema accumulates is inversely proportional to the amount already present.²⁰

(e) *Temperature.* The rate of formation of edema is directly proportional to the temperature of the part.²⁰

(f) *Lymphatic obstruction* blocks one of the two avenues for the removal of tissue fluid. Because of high albumin content of the fluid dammed back from the lymph vessels into the tissue spaces, the effective osmotic pressure of the plasma proteins is reduced and the edema cannot be completely absorbed into the capillaries.

Pathogenesis of Edema—Clinical Aspects

In Table I, the various clinical types of edema have been classified into a group principally due to rise in venous pressure and into a group chiefly due to fall in oncotic pressure, either from depletion of plasma albumin or from escape of albumin into the tissues. Edema is not always due to a single factor. The most important conditions in which more than one factor enters into the production of the edema will be briefly discussed.

Whereas a rise in venous pressure is largely responsible for the edema in cardiac failure, increased capillary permeability from anoxemia and fall in plasma albumin as a result of albuminuria, anorexia or an ill advised low protein diet may contribute towards it.

In nephritics, all three types of edema may be observed. At the onset, the edema is

TABLE I. PATHOGENESIS OF EDEMA

- I. Increased venous pressure
 - A. Cardiac decompensation
 - B. Local venous stasis
 1. Varicose veins
 2. Thrombophlebitis
 3. Obstruction from external pressure (as from pelvic tumors, etc.)
- II. Lowering in effective oncotic pressure
 - A. Fall in plasma albumin
 1. Inadequate protein intake (nutritional edema)
 - a. Improper diet (war edema, beriberi, etc.)
 - b. Anorexia (cachectic states, etc.)
 - c. Defective absorption (chronic diarrhea)
 2. Impaired formation of plasma albumin
 - a. Diffuse liver damage (cirrhosis)
 3. Excessive loss of albumin from body
 - a. In urine (nephrotic edema)
 - (1) Subacute glomerulonephritis (nephrotic stage)
 - (2) Lipoid nephrosis
 - (3) Amyloid kidney
 - b. Through excessive effusion into serous cavities and through profuse suppuration
 - B. Escape of albumin into the tissue fluids
 1. Capillary damage
 - a. Diffuse
 - (1) Bacterial toxins—(acute nephritis)
 - (2) Allergens (angioneurotic edema)
 - (3) Certain drugs—(uranium nitrate, paraphenyldiamine)
 - b. Local
 - (1) Inflammation
 - (2) Insect bites
 2. Lymphatic obstruction

due to a widespread capillary damage.* Edema of this type is transient in duration. When edema persists over a long period of time, depletion of serum albumin is generally responsible. In late stages, cardiac failure may supervene.

Peripheral edema in cirrhosis is due partly to stasis in the inferior vena cava resulting from increased intra-abdominal pressure, partly to fall in serum albumin. Whereas anorexia and loss of albumin in the ascitic fluid contribute towards the latter, the failure of some cases to respond to a high protein diet would suggest that impaired formation of plasma albumin is an important factor.^{18,24}

The edema which accompanies anemia is usually traceable to fall in serum albumin, to venous thrombosis or to heart failure. A fall in hemoglobin or red cells in the absence of these factors is not associated with edema.¹⁷

*The theory that nephritic edema is due to retention of salt and water is not borne out by clinical and experimental observations. Retention of salt and water in acute nephritis has not been conclusively demonstrated. Bilaterally nephrectomized animals, in whom a maximal salt and water retention would be expected, do not develop edema unless they are given large amounts of saline.

Diagnosis

Congestive heart failure is usually easily recognized by the dependent edema, enlarged liver, engorged cervical veins, pulmonary congestion and cardiac changes. Edema from local venous stasis is likewise readily detected by its asymmetrical distribution and by the changes in the veins.

The most frequent diagnostic error lies in the failure to recognize the part played by reduction in plasma albumin. This is almost always a factor in chronic edema in which the face is involved in addition to the dependent parts. Even though the face is unaffected, the dietary history of all chronic cases should be investigated, and the loss of protein in the urine and body fluids evaluated. Whenever possible, a serum albumin determination should be made. If this is below 2.5 per cent, it is certainly an important, if not the sole, cause of the edema. If it is between 2.5 per cent and 3 per cent, it is probably a contributory factor. Unless the part played by fall in serum albumin is appreciated and an adequate protein intake assured, therapeutic results will usually be disappointing.

The clinical forms of edema arising from increased capillary permeability are usually easy to recognize. Suddenly appearing circumscribed areas of subcutaneous swelling with urticaria are characteristic of angioneurotic edema. An acute diffuse edema, most marked in the face and eyelids, should suggest an acute nephritis, which may be verified by urine examinations, blood pressure and blood urea determinations. In case the urine is negative, trichiniasis should be considered and a blood smear examined for eosinophilia. Inflammatory edema secondary to local infection is seldom, if ever, difficult to recognize. Lymphatic obstruction is revealed by the brawny skin induration.

Treatment

The following outline of treatment is recommended for edema due to rise in venous pressure or fall in serum albumin.[†]

- A. Rest in bed is indicated as long as there is gross edema.

[†]Edema due to increased capillary permeability requires specialized treatment depending on the cause. Angioneurotic edema is relieved by adrenalin. Afterwards the causative allergen must be searched for and eliminated. Inflammatory edema requires local heat and drainage. In acute nephritis the most important measures are rest and drastic salt restriction.

B. Diet:

1. *A high caloric intake* is desirable to combat undernutrition. When the appetite is poor, frequent feedings of concentrated foodstuffs may be necessary.
2. *A high protein diet* is indicated whenever plasma albumin is lowered. The maximum amount that the average person will tolerate is 100 to 120 grams daily. This is provided for by including a pound of meat or fish in the menu.
3. *An acid ash* promotes diuresis. Meat, eggs and cereals leave an acid ash whereas fruits and vegetables are basic. A high protein diet will thus leave an acid ash unless large amounts of fruit and vegetables are included.
4. *Salt restriction* is the most important part of the diet. When conditions favorable to the development of edema have been established, the amount accumulating depends upon the intake of sodium. For this reason, medication containing sodium should be avoided and the salt intake should be reduced to a minimum. Since most raw foods are salt-poor, a satisfactory diet for edematous subjects may be prepared in the home by observing the following precautions: (a) add no salt during cooking or at the table; (b) avoid salted preserved meats and fish, sausage, meat extracts and sauces, cheese and salted crackers; (c) use salt-free bread and butter (salt may be removed from ordinary butter by melting in boiling water, then resolidifying); (d) do not use milk as a beverage. Such a diet should contain between one and two grams of salt daily. Spices may be used liberally to make the diet more palatable. Potassium chloride has proved to be a good salt substitute and an effective diuretic when supplied in a salt shaker with instructions to season the food to taste, using a total of five grams daily.¹
5. *Moderate fluid restriction.* As long as the diet is salt-free and leaves an acid ash, fluids may be forced without increasing edema.²² The excess

water is eliminated through the lungs and skin. Since an absolutely salt-free diet is not practical clinically, moderate fluid restriction (i.e., to 1500 c.c. daily) is advisable while edema lasts.

C. *Digitalization* is indicated whenever congestive heart failure contributes towards the edema.

D. *Removal of accumulated fluid.*

1. *Through kidney*—by diuresis. The only important contraindication to the diuretics as a group is renal insufficiency, which leads to drug retention and poisoning. The simplest and one of the most delicate tests of renal function is the specific gravity of the urine. If the patient can put out a sugar-free urine with a specific gravity above 1.020, any of the following diuretics may be tried:

a. *The acid forming salts*,² particularly ammonium chloride and nitrate, should, as a general rule, be tried first. The usual dose of either drug is 30 to 50 grains t.i.d. p. c. In the event that the taste of the aqueous solution is objectionable, the drugs may be prescribed in capsules. The nitrate is less likely to produce nausea, vomiting and acidosis but, on the other hand, occasionally causes cyanosis through conversion of hemoglobin to methemoglobin.^{7,31} The cyanosis promptly clears up after the withdrawal of the drug. Furthermore, the nitrate may lose its diuretic effect when given over a period of time, due to depletion of plasma chlorides. When ammonium salts must be given over a long period, it is best to alternate the nitrate and chloride. Acidosis should be watched for and the renal function checked at intervals.

b. *Salyrgan*, an organic mercurial, is indicated on the third morning of treatment, if a satisfactory diuresis was not produced by the ammonium salts and other measures instituted during the first two days. It is given intra-

venously (never subcutaneously because of slough formation), the initial dose being 0.5 c.c. It may be repeated once or twice weekly in doses of 1 or 2 c.c. as long as renal function is intact and hematuria is not produced. For maximal results an ammonium salt should be given for two days prior to each injection. Salyrgan has been given in this manner over long periods of time without demonstrable ill effects.^{29,32} In the presence of renal insufficiency, however, mercurial poisoning with its usual manifestations (oliguria, stomatitis, colitis) is likely to occur.

- c. *Xanthine* diuretics may be used for two days prior to salyrgan, in place of or together with an ammonium salt.¹⁵ The urinary output when the drugs are given in this manner is greater than the summation effect when used independently. The xanthine diuretics are valuable in cardiac edema but are often ineffective in other forms. The best diuretic of this group is theocin, which is given in five grain doses after breakfast and after the noon meal for a period of two or three days. The diuresis will thus occur in the afternoon and evening and will not interfere with the patient's sleep. By giving the drug p.c. the incidence of nausea and vomiting is minimized. If a gastric upset does occur, aminophyllin (3 grains), theobromine sodium salicylate (10 grains) or phyllicin (4 to 8 grains) may be substituted. These drugs are closely related chemically to theocin, are less irritant to the stomach, but also are generally less effective.
- d. *Urea*. Since there is a limit to the concentrating ability of the kidneys, the greater the quantity of urea excreted, the larger the volume output of urine. A dose of 50 to 100 grams of urea daily is necessary to produce a satisfactory diuresis. However, urea

may actually increase edema, for, like salt, it is freely diffusible into the tissues. Furthermore, it is unpleasant to take, even when iced and flavored with lemon.

2. *Mechanical removal of fluid*. Hydrothorax is seldom completely absorbed and should be removed as early as possible by thoracentesis. Massive ascites interferes with renal function through pressure on the renal veins and therefore should be evacuated. Small collections of ascitic fluid generally respond to diuretics. Peripheral edema should not be removed mechanically unless all other measures fail, because of the danger of cellulitis.
3. *Elimination of fluid through the bowel and skin*. Purgation and sweating, when vigorous enough to eliminate considerable fluid, are poorly tolerated by the patient.

E. *Methods of increasing plasma oncotic pressure.*

1. *High protein diet*.
2. *Thyroid extract* is at times helpful in the removal of nephrotic edema⁸ but is contraindicated in cardiac decompensation. A rise in plasma oncotic pressure has been observed following thyroid therapy.²³ The initial dose is $\frac{1}{2}$ to 1 grain t.i.d., which may be stepped up rapidly as long as symptoms of thyrotoxicosis do not appear. As much as 15 to 30 grains daily has been given without untoward effect.
3. *Acacia*. Frequent intravenous injections of acacia have been used in stubborn cases of nephrotic edema in an attempt to raise plasma oncotic pressure.¹² Recent work⁴ has shown that reduction of edema by acacia is only transient and that the ultimate effects are undesirable. With continued injections there is a marked enlargement of the liver and a pronounced fall in plasma albumin.
4. *Blood transfusions* are occasionally followed by appreciable rise in plasma oncotic pressure and disappearance of edema.²¹

5. *Reinjection of protein derived from body fluids.* Considerable protein is lost in the fluids removed by paracentesis. It would seem logical to collect these fluids under sterile precautions, reduce their volume in a desiccator and reinject them intravenously.

Bibliography

1. Barker, M. H.: Jour. A. M. A., 98:2193, 1932.
2. Binger, M. W., and Keith, N. M.: Jour. A. M. A., 101:2009, 1931.
3. Christian, H. A.: Jour. A. M. A., 97:296, 1931.
Christian, H. A.: New England Jour. Med., 209:1267, 1933.
4. Dick, M. W., Warmeg, E., and Andersch, M.: Jour. A. M. A., 105:654, 1935.
5. Elliott, C. A.: Ann. Int. Med., 7:240, 1933.
6. Epstein, A. A.: Jour. A. M. A., 87:913, 1926.
7. Eusterman, G. B., and Keith, N. M.: Med. Clin. N. Amer., 12:1489, 1929.
8. Fahr, G., Kerkhof, A., and Giere, E.: Proc. Soc. Exp. Biol. and Med., 29:335, 1931.
9. Fishberg, A. M.: Hypertension and Nephritis. Lea and Febiger, 1931. Chapter 4.
10. Gilligan, D. R., Volk, M. C., and Blumgart, H. L.: Jour. Clin. Invest., 13:365, 1934.
11. Govaerts, P.: Compt. rend. soc. d. biol., 93:441, 1925.
12. Hartmann, A. F., Senn, M. J. E., Nelson, M. V., and Perley, A. M.: Jour. A. M. A., 100:251, 1933.
13. Hastings, A. B., and Van Dyke, H. B.: Jour. Biol. Chem., 78:35, 1928.
14. Hastings, A. B., Liu, S. H., and Dievaide, F. R.: Jour. Clin. Invest., 10:683, 1931.
15. Herrmann, G., Schwab, E. H., Stone, C. T., and Marr, W. L.: Jour. Lab. & Clin. Med., 18:902, 1933.
16. Keefer, C. S.: Internat. Clin., 2:85, 1933.
17. Keefer, C. S., and Myers, W. K.: Trans. Assoc. Am. Physicians, 47:231, 1932.
18. Kerr, W. J., Hurwitz, S. H., and Whipple, G. H.: Am. Jour. Physiol., 47:356, 370 and 379, 1918-19.
19. Landis, E. M.: Heart, 15:209, 1929-31.
20. Landis, E. M., and Gibbon, J. H.: Jour. Clin. Invest., 12:205, 1933.
21. Landis, E. M., and Leopold, S. S.: Jour. A. M. A., 94:1378, 1930.
22. Lashmet, F. H.: Jour. A. M. A., 97:918, 1931.
23. Malken, S. J.: Klin. Wchn., 9:551, 1930.
24. Myers, W. K., and Keefer, C. S.: Arch. Int. Med., 55:349, 1935.
25. Peters, J. P., and Eisenman, A. J.: Am. Jour. Med. Sc., 186:808, 1933.
26. Peters, J. P., and Van Slyke, D. D.: Quantitative Clinical Chemistry, Williams and Wilkins Co., 1931, Vol. I, Chapter XIII.
27. Salvesen, H. A.: Acta Med. Scand., 65:147, 1926.
28. Shelburne, S. A., and Egloff, W. C.: Arch. Int. Med., 48:51, 1931.
29. Smith, C.: Jour. A. M. A., 102:532, 1934.
30. Starling, E. H.: Jour. Physiol., 19:312, 1895-6.
31. Tarr, L.: Arch. Int. Med., 51:38, 1933.
32. Tarr, L., and Jacobson, S.: Arch. Int. Med., 50:158, 1932.
33. Weech, A. A., and Ling, S. M.: Jour. Clin. Invest., 10:869, 1931.
34. Wiener, H. J., and Wiener, R. E.: Arch. Int. Med., 46:236, 1930.

CANCER SURVEY OF MICHIGAN*

Made by

FRANK LESLIE RECTOR, M.D.†

Cancer Statistics.—There are fairly comparable statistics of cancer mortality influenced, as are all other vital statistics, by the accuracy with which the cause of death has been determined and the statistical facts interpreted. Mortality figures alone are of little value in discovering the frequency and distribution of the disease or in planning a prevention and control program.

Morbidity figures are needed to give a picture of cancer at a time most hopeful for cure and control. Such statistics in general are wanting, in spite of the fact that at the present time cancer is a reportable disease in eleven states. Such figures are needed to check death certificates, to stimulate earlier diagnosis, to evaluate therapeutic methods, and to augment clinical knowledge of the disease.

There might well be associated with the collection of morbidity statistics the assembling of similar information as to results of treatment. Inasmuch as but three methods of treatment are now recognized, viz., surgery, roentgen ray, and radium, it should be a comparatively easy undertaking to ob-

tain fairly accurate statistics on treatment from those institutions seeing the largest number of cancer patients.

Dr. Gösta Forssell‡ has said:

"In my opinion, the introduction of a means for controlling treatment in the form of obligatory statistics as to the result of treatment is much more important than are statistics as to mortality and morbidity. The elaboration of present methods of cancer treatment and their further development depend on the availability, for practitioners and medical authorities, of trustworthy statistics as to the results of therapeutic means now in use. Such statistics are also necessary for estimating the efficiency of new forms of therapy."

For some reason the collection of morbidity statistics has been ignored by the agencies most concerned in this work. A few hospitals are specializing in cancer treatment and it is from these that available statistics are being received. As one essential of acceptable tumor clinics, now being organized in general hospitals, is the keeping of accurate and adequate records, it is expected that soon a considerable body of information from this source will be available on cancer morbidity and therapy. However, it will be necessary to increase the sources of this information much beyond

*Continued from March, 1936, issue.

†Field Representative, American Society for the Control of Cancer, New York, N. Y., Clarence Cook Little, Sc.D., Managing Director.

‡American Journal of Cancer, v. 20, No. 4, p. 854, April, 1934.

their present number and scope before their value will in any way approach that of other diseases.

In the absence of definitely known etiological factors, the most promising attack on cancer is through the collection and analysis of all possible information bearing on it. Hospitals and physicians in private practice should take full advantage of their opportunities to record in detail the factors, both primary and collateral, that relate to their cancer patients.

Organized Cancer Service

Surveys made by the American Society for the Control of Cancer have shown that the average general hospital does not have, nor can it be expected to have, adequate facilities for the diagnosis and treatment of all types of malignant diseases. The small number, 2 to 3 per cent, of such patients cared for, the cost of necessary equipment, especially deep therapy and radium, the absence of staff members with training and experience to insure competency in diagnosis and treatment, all suggest that the hope for an improved service to these patients rests in the development of adequate facilities in a few institutions where satisfactory work can be done.

In coöperation with the American Society for the Control of Cancer, the American College of Surgeons, through its Committee on the Treatment of Malignant Diseases, has outlined the following types of institutions for the treatment of cancer:

1. Cancer institutes
2. Cancer hospitals
3. Cancer clinics in general hospitals
 - a. Complete cancer clinics
 - b. Diagnostic cancer clinics

The quotations that follow, unless otherwise noted, are taken from the pamphlet of the American College of Surgeons entitled "Organization of Service for the Diagnosis and Treatment of Cancer," June, 1931.

Cancer Institutes.—"A cancer institute is an organization equipped with hospitals and laboratories especially organized and conducted for carrying on research in relation to the nature of cancer and its diagnosis and treatment, as well as for the clinical diagnosis and treatment of actual cancer cases. . . . Institutes of this nature require very considerable endowment or such generous annual appropriations as can be obtained usually only from the state or national government. They are undoubtedly the most effective method of dealing with the cancer problem, but their cost is such that their number will inevitably be somewhat restricted."

Cancer Hospitals.—"Cancer hospitals are devoted exclusively to the diagnosis of cancer and allied diseases. They differ from cancer institutes in that major emphasis is placed on clinical work rather than on research. At this time not more than twelve such hospitals are found in this country.

"Such organizations require very considerable financial support either by endowment or by annual appropriation. Hospitals of this nature may be supported by the state departments of public health, as in Massachusetts; by state universities, as in the Cancer Institute of the University of Minnesota; or partly by endowment and partly by annual subscription, as in the case of those organized under private enterprise. Institutions of this nature are coming into existence as special departments of existing hospitals in many places."

Cancer Clinics in General Hospitals.—"Where funds sufficient for the maintenance of cancer institutes, research laboratories, or special cancer hospitals are not available, the demand for improved service for cancer cases has resulted in the organization of special cancer clinics in existing general hospitals and of cancer diagnostic clinics in many places in the country in the past few years. The reason for the organization of these special cancer clinics is primarily the fact that the field of cancer diagnosis and cancer treatment has developed so widely in the past few years that only by the organization of a group of representatives of the different departments of the hospital can the full resources available at the present day for the treatment of cancer be made accessible to the individual patient. Many general hospitals are equipped with the material and apparatus needed for the treatment of cancer, including high voltage x-ray and a sufficient amount of radium, but a separate organization is required to make this equipment available for the cancer patient and to secure the necessary consultation and coöperation from the different members of the hospital staff who are interested and competent in this field."

Cancer Diagnostic Clinics.—"Hospitals unable to meet fully the requirements for a cancer service, as outlined previously, but which have staff members interested in cancer and a laboratory with equipment and personnel to interpret the histological findings, may offer a cancer diagnostic service.

"Cancer diagnostic clinics may be organized in smaller communities where modern x-ray equipment and an adequate supply of radium is lacking. The object in establishing such a clinic is to provide better diagnoses upon cancer patients, to furnish a group judgment concerning the proper means of therapy to be employed, and to educate the medical public concerning this important group of diseases. Medical men in the community should be encouraged to bring patients to such a clinic, accompanied by a complete record of the history and physical examination. When a diagnosis shall have been reached and a line of treatment suggested, the surgeon or physician will be free to continue the care of his own patient as he may see fit."

Minimum Standard.—"The American College of Surgeons* has promulgated minimum standards for cancer clinics in general

*Surgery, Gynecology and Obstetrics, June, 1931. Also published as a separate pamphlet by the College of Surgeons.

hospitals. These standards can be put into effect in whole or in part as local conditions indicate. They are as follows:

"1. Organization.—There shall be a definite organization of the service, and it shall include an executive officer and representatives of all the departments of the hospital which are concerned in the diagnosis and treatment of cancer. The services of a secretary and of a social service worker shall be available.

"2. Conferences.—As an essential feature of the service there shall be regular conferences or consultations at which the diagnosis and treatment of the individual cases are discussed by all members of the clinic who are concerned with the case.

"3. Patients.—Reference to the cancer clinic of all patients in whom the diagnosis or treatment of cancer is to be considered shall be either voluntary or obligatory in accordance with the vote of the medical staff or of the governing board of the hospital.

"4. Equipment.—In addition to the diagnostic and therapeutic surgical equipment which is required in every approved general hospital there shall be available an apparatus for x-ray therapy of an effectiveness which is generally agreed upon as adequate, and an amount of radium sufficient to insure effective treatment.

"5. Records.—In addition to the records which are required in every approved hospital, there shall be additional records of:

"(a) The details of the history and of the examination for cancer in different regions of the body, such as are indicated on the form records which are recommended by The Committee on the Treatment of Malignant Diseases, American College of Surgeons.

"(b) The details of the treatment by radium or x-ray as indicated on the form records which are recommended by The Committee on the Treatment of Malignant Diseases, American College of Surgeons.

"(c) Periodic examinations at intervals for a period of at least five years following treatment.

"6. Treatment of cancer patients shall be entrusted to the members of the staff of the cancer clinic except in cases in which adequate treatment in accordance with the collective recommendation of the staff of the cancer clinic can be procured otherwise."

A discussion of some of the problems connected with an improved service for cancer patients, especially with some of the personnel problems involved, may be in order.

Pathologist.—While it does not come within the scope of this report to evaluate the ability of pathologists properly to interpret cancer tissues, it may be well to point out that special training and considerable experience are necessary to competency in this field. While the preparation and staining of tissue may be carried out by a technician, the best interests of the patient can be served only when the interpretation of that tissue is made by a physician with ade-

quate training and experience in this special field.

The preparation necessary for accurate interpretation of tumor tissue is much beyond that requisite for many other branches of clinical pathology, and the physician who equips himself for this form of medical practice should be granted better recognition in the staff organization than he now receives in many hospitals. As he is unable to share in fees collected by the surgeon and diagnostician, although a major responsibility for proper diagnosis and treatment often rests on him, he should receive remuneration in keeping with these responsibilities. The pathologist is one of the key men in an adequate diagnostic service, and men competent in this field cannot be expected to enter it unless their position is recognized and their remuneration more in keeping with their ability and responsibility than now prevails in many cases.

The pathologist, to be capable in the diagnosis of tumor tissue, must at times move out of the laboratory into the ward and operating room. He should see the patient at the bedside and have a voice in the decision on biopsy and where one should be taken if indicated. If biopsy is to follow exploratory incision, he should select the tissue for examination and by frozen sections tell the surgeon just what he is dealing with so that indicated procedures can be effectively carried out. Chemical analysis of secretions and excretions often throws much diagnostic light on the character of a tumor. The pathologist must be able to interpret the physiologic, chemical, physical and clinical observations in addition to the microscopic picture of the stained specimen. If he is confined to his laboratory seeing only such tissues as are submitted to him, he cannot do justice to his work or to the patient. His interpretations are all the more valuable when he has the added clinical experience and information that a consultation on these cases would give.

Dr. Shields Warren,* in discussing this subject, has said:

"The pathologist fills his position in the truest sense when he brings his special knowledge and experience to bear on the solution of clinical problems. The rapid growth in importance of the diagnosis and therapy of malignant disease offers exceptional opportunity to the pathologist. In his hand rests the diagnosis of early malignancy (and all too often late). His is the duty of estimating the prob-

*Bulletin, American Society for the Control of Cancer, v. 15, No. 11, p. 12, November, 1933.

able susceptibility of a tumor to radiation and of supplying the surgeon with information as to the probability and extent of metastasis. In the laboratory converge the streams of material from the various services, and this wealth of material, supplemented by observation of the patients themselves, endows the pathologist in a few years with a keen diagnostic sense. . . .

"The exceptional opportunity of the pathologist to correlate the gross and microscopic appearance of tumors, and the constant exercise of this opportunity required by the increasing use of immediate frozen section diagnosis, give him a definite advantage over the clinician in recognizing the various manifestations of neoplasms. The almost universal inclusion of the pathologist in tumor clinics is a recognition of this fact. His trained eye and hand can do much in guiding the clinician toward the correct diagnosis. The opportunity the pathologist has for checking up on the results of various types of treatment and for seeing at the autopsy table the distribution of various types of metastasis combine to make him a singularly well qualified consultant. Ewing has succinctly epitomized the ideal: 'The clinician may be permitted to err, but the tumor pathologist should charge himself with responsibility for faultless technic, prompt service, infallible care, and a percentage of error which approaches the vanishing point.'"

The attempt to develop a special cancer service in hospitals without laboratory equipment for tissue diagnosis and personnel to interpret such examinations would be a procedure of doubtful value. A false sense of security in the reliability of diagnostic procedures would be engendered that would make for delay in securing adequate treatment in many cases.

The qualifications for a clinical pathologist are defined by the American Medical Association* as

"One who is a graduate in medicine having had satisfactory training and experience in pathology, chemistry, bacteriology or other allied subjects for at least three years subsequent to graduation, who is in good standing and has been duly licensed to practice medicine.

"The pathologist shall be on a full or part time basis with a laboratory for the practical application of one or more of the fundamental sciences by the use of specialized apparatus, equipment and methods, for the purpose of ascertaining the presence, nature, source and progress of disease in the human body. He should devote the major part of his time to work in this field. . . .

"The pathologist may make diagnoses only when he is a licensed graduate of medicine, has had satisfactory training and experience in pathology

for at least three years subsequent to graduation from medical college, is reasonably familiar with the manifestations of disease, and is competent to make reliable reports."

Roentgenologist.—There is a wide difference of opinion among roentgenologists as to the optimum dosage of deep x-ray in cancer therapy. It is realized that this question is still undecided, but undoubtedly the trend is toward higher voltages and heavier filtration. The majority of hospitals devoted exclusively to cancer and allied diseases as well as the minimum standards of the American College of Surgeons for the treatment of malignant diseases, have set 200,000 volts as a minimum for acceptable deep therapy.

Of equal importance with installation of deep therapy equipment is the frequent calibration of tubes to see that the indicated voltage is being delivered. Such measuring devices should be attached at all times to such equipment; but where this is not feasible, the output of the tubes should be measured at frequent intervals.

Dangers to the patient arising from the use of this highly specialized form of therapy by physicians without adequate training in either the physics or the therapeutics of its application should be emphasized. A powerful force, about which much remains to be known, is brought into play when deep therapy treatments are given. Not only should the operator be thoroughly familiar with the general physical and therapeutic reactions of this force on the human system, but he should appreciate differences in reaction that take place in different individuals. The use of such equipment for additional revenue, without a thorough knowledge of its physiological effects, cannot be defended on any grounds of medical science. The patient's welfare must be held paramount to all other considerations entering into his treatment, and the use of x-ray therapy for any other purpose does much to discredit the legitimate use of this method in the hands of capable physicians.

(To be continued in May issue)

*Journal American Medical Association, v. 103, No. 16, p. 1230, October 20, 1934.

THE JOURNAL

OF THE

Michigan State Medical Society

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Editor

J. H. DEMPSTER, M.A., M.D.
 5761 Stanton Avenue, Detroit, Michigan

Medical Secretary

C. T. EKELUND, M.D.
 35 W. Huron Street, Pontiac, Michigan

Business Manager

Wm. J. BURNS, LL.B.
 2642 University Avenue, St. Paul, Minnesota
 or
 2020 Olds Tower, Lansing, Michigan

APRIL, 1936

*"Every man owes some of his time to the up-
 building of the profession to which he belongs."*

—THEODORE ROOSEVELT.

EDITORIAL

THE COLLEGE OF PHYSICIANS

The outstanding medical event in Michigan for the month of March was the twentieth annual convention of the American College of Physicians held in Detroit, March 2 to 6. This association of physicians has its counterpart in the American College of Surgeons. Both national organizations have shown wonderful results in the elevation of the standards of the practice of medicine and surgery in the United States. The College of Physicians is looking forward to establishing an examination board, the satisfactory passing of whose examinations will be evidence of qualification, for specialization in internal medicine. The Detroit meeting was a huge success from the viewpoint of the programs, interest and attendance. The membership was fairly representative of internists throughout the United States.

An outstanding feature of the week was the convocation oration on "The Rôle of Emotion in Disease," by Dr. Walter B. Cannon, professor of Physiology at Harvard University Medical School. Dr. Cannon went on to state that the past quarter of a century had witnessed what might be called the conquest of infectious disease. Such infectious diseases as typhoid and

diphtheria are almost under complete control. Tuberculosis has assumed a position of low in the roll of diseases that shorten life. The medical profession, however, was confronted with a new problem, namely, the relation of emotion to disease. The feeling of insecurity in an economic sense had produced in the minds of millions of men and women an attitude towards existence that was anything but beneficial to physical comfort and well-being. The speaker emphasized the importance of the physiological approach, the effect that emotions had upon the organs of the body. He spoke of the effects of fear and fright on secretions, and the influence of anxiety as a factor affecting disease. Here was a new field for physicians, namely, recognition of the psychic factor in disease. The cultists were able to secure large followings largely due to the fact that physicians were apt to dismiss patients in whom no actual organic lesion could be demonstrated. Dr. Cannon's address was in part a plea for greater attention on the part of physicians to the physiological approach to the subject of health. This should be preëminently the rôle of physicians, who alone are competent to make a complete and satisfactory physical examination.

Dr. James Alexander Miller, in his presidential address, emphasized the new trend in medical practice from curative to preventive medicine. The doctor must assume a position of leadership. We have heard this before; however, repetition will do no harm. There is ample evidence that this advice is being heeded here if we may judge from the activities of state and county medical societies in Michigan.

The American College of Physicians has afforded an opportunity not only to the Fellows of the College, but to the profession of the state as guests, to avail themselves of a short postgraduate course in clinical medicine.

The hospitality of Detroit and the County and State Medical Societies is assured the College when it may see fit to return.

A SUGGESTION

Dr. J. H. Miller, president of the American College of Physicians, in his presidential address before the Annual Convocation referred to the various "foundations."

JOUR. M.S.M.S.

He knew many of the founders and those associated with them and declared that they were splendid persons with a desire to do the right thing.

We would suggest then that, as disinterested persons, they use their wealth and influence to inform the laity regarding the merits of scientific medical care as may be rendered by graduates of our grade A medical schools, the schools sponsored by the state; teach them the danger of self-medication and the importance of accurate diagnosis before prescribing any treatment and also where competent medical care may be obtained. In other words, bring together the properly qualified physician and the patient requiring his services. Once this is accomplished, State or socialized medicine will seem a weak and ineffective remedy in the matter of distribution of medical care.

WHAT ARE YOUR DIFFICULTIES?

The Michigan State Medical Society and the Post-Graduate Department in Medicine of the University of Michigan are busy with the next program of intensive post-graduate studies for the profession of their state. As we have already declared, the aim is to educate or to teach principles as far as possible in the brief space of time allotted to post-graduate work. It is needless to say the courses must also be practical.

In the writer's early years of practice, he often reflected what a wonderful opportunity it would be if one might return to medical college in the senior year and be permitted freely to present his difficulties for discussion. Every physician has his difficulties almost daily presented to him as problems. The textbook and the medical magazine serve a useful purpose but they are concerned of necessity with the generalities rather than specific instances.

Here is a suggestion. When you attend these conferences, bring along with you a number of actual problems which have perplexed you. Write them down when they present themselves. If it is concerning a fracture, bring along the x-ray films; if a chest in which there is difficulty in determining the pathologic change or the course of treatment to pursue, x-ray films again will constitute a valuable basis of discussion. No matter what phase of practice one is particularly interested in, difficulties arise that

are usually solved by discussion with others. If each doctor who contemplates attendance on the post-graduate courses, announced in this JOURNAL from time to time, would write to the department of Post-graduate Medicine of the University stating the difficulty as specifically as possible, he would greatly aid the director and those in charge in devising a helpful program. He might also bring a list of his difficulties as suggested to the post-graduate conference. The object of the post-graduate department in medicine and the Michigan State Medical Society is to be as helpful as possible and to enable members who avail themselves of an opportunity offered to fit themselves to render the highest quality of medical care.

STATE MEDICINE CUTS NUMBER OF PHYSICIANS

We have expressed the belief that the complete socialization of medicine would result in the elimination of many members from the medical profession. In state controlled medicine as it prevails in state mental hospitals and in institutions for the care of infectious disease, the number of doctors employed is fairly defined and limited. If the principle were made to include employed persons and their dependents fewer physicians than now are licensed would be required since they would be organized about hospitals or central state controlled clinics. We have no accurate knowledge regarding what this decrease would be. However, a survey has been made in Canada from the viewpoint of overcrowding of the professions. The *Nova Scotia Medical Bulletin* comments on the survey which was discussed in an article in the *Toronto Saturday Night* of January 4.

"He [K. T. Cox, the author of the paper mentioned] shows that the overcrowding in Medicine has produced a decline in the doctors of Canada during the last ten years of 3 per cent from ninety-nine per 100,000 to ninety-six per 100,000, while in the U. S. A. the situation is even worse. On the basis of this, and estimating the needs for—(a) The replacement of the wear and tear among medical men, and (b) The increase due to growth of population, it is calculated that during the next ten years we shall require twenty-eight hundred new doctors. A survey shows three thousand students in our Medical Schools today, which, with generous allowances for 'flunking,' etc., will give us four thousand new doctors in ten years—twelve hundred too many, an excess of one hundred and twenty a year.

"But the part of the survey that is most important at the moment is his consideration of how that

excess would be taken care of by State Medicine. He shows that in Saskatchewan centers where this has been tried it has been found that *one doctor can handle two to three thousand people and he concluded that if this form of State Medicine is adopted for Canada, on the basis of one doctor for every two thousand of population, we should need only five thousand doctors where today we have ten thousand! This obviously provides a situation which will need adjusting and which will be difficult of adjustment under our present system.*" (Italics ours.)

On the basis of one doctor to 2,000 population the medical needs of the United States can be cared for by 50,000 instead of approximately 100,000 physicians as at present.

What member of the medical profession can afford to supinely fold his arms and to disregard the propaganda that is being spread abroad for the replacing of traditional methods of medical practice by medicine under state control?

AUTOMOBILE ACCIDENTS

As this is being written, the streets and roads are at their worst with ice and snow and a prolonged period of temperature that is nearer zero than it is to freezing; yet the number of major automobile accidents is less than in more pleasant weather. The reason is greater care on the part of drivers. Speed has been given a second place to safety. If such a cautionary attitude could be maintained throughout the year, what a difference it would make to the conservation of life and limb.

The automobile of recent years is almost the last word in efficiency, so far as response and brakes are concerned. It is easily controlled and easily stopped. But the manufacturer cannot go any farther. He cannot control the brain or lack of it behind the steering wheel. Here the personal equation comes in for consideration. We have laws a plenty and yet we have accidents. We have often felt that the same courtesy observed in the home or among social groups, if exercised on the street and highway, would be almost a panacea for automobile accidents. Or to put it another way, let each be willing to give the other the right of way irrespective of the legal right. We are reminded of an epitaph:

Here lies William Strong,
He died maintaining the right of way,
He was right, dead right, as he sped along
But he's just as dead
As if he'd been dead wrong.

Sure and severe sentences by courts are in the right direction. The holding of the

culprit to strict account for any damage caused where such damage is reparable all tend to inspire respect for laws. However, the lesson of January and February should not be forgotten in the balmy days of spring and summer.

A POPULAR PROFESSION

Medicine continues to be the most popular of the learned professions. The registrar of a medical school in the mid-west region of the United States writes: "We have every year over one thousand non-residents applying for admission to the medical school. You can readily see from this that the competition is exceedingly keen. Furthermore, we will not be able to take more than ten non-resident students and probably less. The ones accepted will be among those of superior scholastic attainments. One may have a B average and still not be eligible for admission."

Our own two medical schools have had each year many times the number of applicants that could be accommodated. Many young men who want to study medicine apply for admission to several medical schools. The actual number, therefore, who apply for admission to the medical schools and who are rejected is much smaller than the aggregate applications filed. The overcrowded condition of the profession warrants still further limitation of the number accepted for the study of medicine. The urge to enter a crowded profession is one of the inexplicable paradoxes of the times.

PRIZE WINNERS

Prizes will be offered at the annual meeting of the Michigan State Medical Society for the best scientific exhibits. Ample space for display will be afforded. In addition to opportunities for the presentation of educational exhibits, the presence of the exhibitor to act as a demonstrator adds materially to the interest of the spectator.

The prize winners at the scientific exhibit at the seventieth annual meeting at Sault Ste. Marie were Drs. Grover C. Penberthy and Charles N. Weller, who presented a joint exhibit illustrating the treatment of burns; Dr. E. S. Gurdjian, who presented and demonstrated treatment of skull fractures, and Dr. R. A. MacArthur, whose exhibit illustrated pathologic conditions of the genito-urinary tract.

There were many other exhibits, all of pronounced merit. An hour or so in observing the various specimens and illustrative charts, diagrams, or radiographs will well repay the time spent.

The British Broadcasting Corporation, according to the *Manchester Guardian*, has an audience of over seven million license holders and revenue of 2,472,572 pounds. These figures show that the BBC is a very successful business institution. This sum provides entertainment in which the artists and speakers are paid, permanent orchestras employed as well as ample coverage of operation costs. It also means better programs without a lot of advertising matter, some of it very questionable, being sandwiched in between acts. While there is antipathy to overtaxation, who would not be willing to pay a radio tax of \$1.76 a year if in return he were to have the opportunity to listen to choice programs free from exploitation of somebody's laxatives and cure-alls, with also the elimination of singers with cacophonous voices.

Elsewhere in this number of *THE JOURNAL* appears a letter from Dr. F. C. Warnshuis, now secretary of the California State Medical Association. Dr. Warnshuis writes that in California "Protection against malpractice suits has become a serious problem. There has been a 300 per cent increase in the number of suits filed. Insurance companies' policy premiums are 100 to 150 per cent higher than in Michigan." Is there any stronger argument in favor of maintaining an efficient Medical Defense Board such as we have in Michigan or of the further fact that every eligible physician should be an active member of his county and state medical society?

The Importance of Reading

How are the brains to be strengthened, the sense quickened, the genius awakened, the affections raised—the whole man turned to the best account for the cure of his fellow-men? How are you, when physic and physiology are increasing so marvelously, and when the burden of knowledge, . . . is so infinite; how are you to . . . bear up under all, and use it as not abusing it, or being abused by it?

If our young medical student would take our advice, and for an hour or two twice a week take up a volume of Shakespeare, Cervantes, Milton, Dryden, Pope, Cowper, Montaigne, Addison, Defoe, Goldsmith, Fielding, Scott, Charles Lamb, Macaulay,

Jeffrey, Sydney Smith, Helps, Thackeray, etc., not to mention authors on deeper and more sacred subjects—they would have happier and healthier minds, and make none the worse doctors.

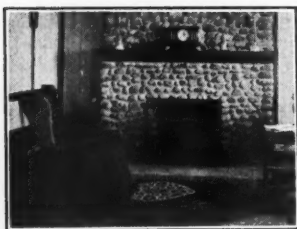
We all know too well that our Art is long, broad and deep . . . and our little hour, brief and uncertain, therefore we would recommend those books as a sort of game of the mind . . . getting fresh, strong views of worn out, old things, and, above all, learning the right use of their reason, and by knowing their own ignorance and weakness, finding true knowledge and strength . . . You must eat the book, you must crush it, and cut it with your teeth and swallow it.—DOCTOR JOHN BROWN.

The Old-time M.D.

(P. Braniff)

His hands were stained with iodine.
His big, thick, gold rimmed glasses
Were slightly smeared and smudged with
Cream o' tartar 'n molasses.
He had no modern fluoroscope
With light and glass and coil.
He had to find the trouble
With a shot of castor oil.
His clothes were slightly wrinkled
And his face was weathered tan.
He sort o' smelled o' tonic
That was good for beast or man.
When your innards were in agony
He didn't probe 'n gape
'N call it highfalutin names—
He called it bellyache.
'N when you got the fever
'N a ringin' in your head
He gave you plain old quinine
'N sent you off to bed.
He could set a broken dog-leg
Or fix a busted bike
Or mend your sister's broken doll
Or anything you'd like.
He knew each family skeleton—
Each poisoned, bitter word—
His ears was filled with gossip,
But you'd never know he heard.
He helped kids come into this world—
He saw old people leave.
He grew a wise and helpful man—
He saw The Master weave.
Little thought he of himself—
No greed had he for gain—
His job was to alleviate
The suffering 'n pain.
He'd vaccinate you with a knife
'N the darn thing always took
'N tell how big 'n brave you were
No matter how you shook.
Without a drop of medicine—
Without a single tool—
He'd look in your eye 'n tell you
To get on back to school.
He knew puppy-love from fever—
He knew mortals' funny ways—
He knew children hardly ever did
Get sick on holidays.
The laboratories of today
Are tributes to his skill.
The specialists and doctors
Are products of his will.
No sacrifice was greater
Than the simple things he did
When he was the family doctor
'N I was a little kid.

—From the *Insurance Field*.



The Editor's Easy Chair

OUR NEIGHBORS

The history of medicine in Canada is almost parallel to that of medicine in the United States. It is natural that it should be so. Canada and the United States as nations had a common origin; they have always had a common language and political and judicial institutions. Their earlier cultural traditions were derived from Great Britain and from France in connection with Quebec, while later, in the United States, education also came under German influence.

The year 1867 is an important one in the history of Canada in more than one respect; it is the year (July 1st) that the British North American Act was passed which united the four provinces of Canada—Ontario, Quebec, New Brunswick and Nova Scotia and made provision for others to be taken into the Union. From a medical viewpoint, it is important as being the year of the consummation of the Canadian Medical Association.* Our American Medical Association came into being in 1847. Medicine had a long history before either of these national associations was formed.

The Canadian Provinces were placed under British control by the Treaty of Paris in 1763. Quebec was the oldest; it also included much of the territory which is now Ontario. A quarter of a century after the Treaty of Paris, we have the first attempt to regulate the practice of medicine. The legislative measure was known as "An ordinance to prevent persons from practicing physic and surgery within the province of Quebec and midwifery in the towns of Quebec and Montreal without license." The object of this measure was to increase the population by lowering the death rate, which was considered possible only by limiting the practice of medicine to those by education and training most competent to practice. The qualified physicians of the day were

those who came to the colonies from England, Scotland and France either as colonists or those who held posts as army surgeons. Needless to say, there were not enough of these qualified practitioners to render medical care to necessarily sparse and scattered population.

* * *

Quacks and charlatans have always been contemporary with orthodox medicine. One qualified practitioner, in a letter to the British Medical Journal in 1847, complains that he is "annoyed by a noted bone setter, who, namely from the happy knack of dislocating his own thumb at pleasure, gulls the public with the belief that no case, however long unreduced, can withstand his manipulations. The snap of his own thumb settles all, and the fee is immediately forthcoming." And again, "Under my own nose lives neighbor B who bleeds and extracts teeth at half the professional charge. . . . In the extirpation of tumors, etc., my scalpels have grown rusty for want of use, as Dr. B, so-called, takes this branch under his care, and unblushingly promises a cure in all cases, benign or malignant, at moderate cost."

* * *

Another attempt was made to improve the medical situation by the incorporation of the College of Physicians and Surgeons for lower Canada (Quebec). This was in 1847.

The first medical act in upper Canada (Ontario) was passed in 1795, four years following the Act of Union, which among other things united and defined the two original provinces of Canada. No one should practice until examined and approved by a board of surgeons to be chosen from surgeons of His Majesty's Hospital and the surgeons of the regiments on duty. However, as mentioned, it was difficult enough to get any kind of medical practitioner to serve the sparse and scattered population without censoring too strictly his qualifications. Hence no record exists of the appointment of the above named board. The act was repealed in 1806 to be superseded by another act in 1815, which, however, confined itself largely to examining pensioners of the War of 1812.

Succeeding attempts towards restrictive medical legislation were somewhat fitful. In 1839, an act incorporating the College of Physicians and Surgeons of upper Canada

*History of the Canadian Medical Association, 1818-1921. By H. E. MacDermot, M.D., F.R.C.P., Toronto: Murray Printing Company, Ltd., 1935.

was passed. It existed for only two years when it was disallowed on the grounds that the powers granted infringed upon the rights and privileges of the Royal College of Surgeons of London. In 1865 an act known as the Parker Act providing for a medical council with the power to prescribe the standard of admission of students and practitioners was passed in 1865. It is interesting to note while on the subject that in the state of Michigan the first attempt at restrictive medical legislation was accomplished in 1899 with the passing of the medical practice act number 237 which, with amendments, is still in force in this state.

It is interesting to note also that during these early years the medical profession of Canada had their difficulties, partly in regard to licensing of homeopaths and eclectics. The debates were very bitter as can be recalled also in Michigan during the earlier years of Michigan's medical history.

Parenthetically, medical journalism had its beginning in Canada, particularly Quebec, as early as 1844 and in upper Canada (Ontario) the first medical journal was published in 1854.

* * *

Up to the time of the confederation, 1867, the efforts of the profession were directed towards the establishment of its legal status with the effort to maintain some degree of regulation of the medical practice.

In harmony with restrictive medical legislation, is the organization of the medical profession into medical associations. The first attempt at the founding of a medical society in Canada was in Quebec in 1844. The object was relief for distressed physicians who could no longer practice through age or infirmity, and, secondly, to care for the wives and families of deceased physicians. This was eventually enlarged to include assistance to the government by advice on such technical matters as hygiene and public health. From this the scope of medical organization broadened to include the advancement of medical science itself in the most extended sense of the term. Another object stated was the protection of the interests of the qualified and licensed practitioners against the inroads and usurpations of the unlicensed, and "the establishment of that union and good feeling among

the members of the profession which should characterize much in the same pursuits." These early attempts at medical organization were to meet obstacles in the way of objections from those who should have been keen supporters of the movement.

It was not until 1867, as has been mentioned, that the Canadian Medical Association became an actual fact. This was doubtless favored by the fact, also mentioned, that the confederation of the four Canadian provinces was consummated the same year. There were, so far as known, 3,000 physicians practicing in Canada that year. The initiative for medical federation originated in Quebec, the oldest province in what henceforth was to be the Dominion of Canada. The first president was Dr. Charles Tupper, afterwards, Sir Charles Tupper of Nova Scotia, who held the office of president the two years following. He later devoted his time to politics and in the nineties was elected prime minister of Canada. Dr. MacDermot, commenting upon Sir Charles Tupper, quotes Sir William Osler, who knew him well, to the effect that Sir Charles was a brilliant example of success of a doctor in politics. If defeated at an election, he would return to his surgical practice, which seemed to develop immediately, to be renounced when success again crowned his efforts at the polls. He lived to the age of 94 years, though at the age of fifty-nine, the author records he had to give up all activities as he was believed to have Bright's disease. His case was referred to by Osler in a paper "On the Advantages of a Trace of Albumen and a Few Tube Casts in the Urine of Men above Fifty Years of Age."

Sir William Osler was president of the Canadian Medical Association in 1884 after two years as general secretary of the association. Dr. MacDermot's book is an entertaining account based on the examination of original records of the evolution of medical organization in Canada. It is highly recommended to those, and their numbers are not inconsiderable, who have received their academic and professional training in Canadian schools.

Note. The relation of the Canadian Medical Association to the various provincial associations is unlike that existing between the American Medical Association and the constituent State Medical Societies. Here the House of Delegates of the American Medical Association is composed of representatives from the various states. There is not such a relation between the provincial medical societies of Canada and the National Association.

BE PREPARED FOR YOUR CANCER PATIENT

CANCER OF THE UTERUS*

The uterus is the most common site of cancer in women; in fact, only the gastrointestinal tract, regardless of sex, is more frequently involved. One-fifth of uterine cancer develops in the fundus and four-fifths in the cervix. In the fundus the neoplastic tissue is derived from the endometrial glands and in the cervix the squamous epithelium of the portio vaginalis is usually the site of origin. Cancer of the cervix is not only more prevalent than cancer of the fundus but it is more serious because its degree of malignancy is generally higher and metastasis more extensive.

That nearly 20,000 women die of uterine cancer annually in the United States is a medical disgrace because the lesion is definitely accessible; while the fundal type cannot be inspected, it is nevertheless easily reached for diagnostic purposes. The danger signs are well known—an abrupt change in character of menses, metrorrhagia, intermenstrual or postmenopausal bleeding, foul-smelling discharge with or without blood and pelvic pain. Unfortunately, these symptoms do not send uterine cancer patients into medical hands promptly, as evidenced by the fact that an average delay of six months exists between the onset of symptoms and the establishment of a diagnosis. This situation is due to several things: (a) complete ignorance regarding cancer on the part of the public, (b) incomplete or inaccurate cancer information possessed by the laity leading to the substitution of unreasoning fear and pessimism for intelligent action, (c) harmful advice by friends, neighbors, quacks, unscrupulous druggists and uninformed physicians and (d) false modesty regarding physical examinations. The first cause is partly the result of the medical profession's failure to fulfill its obligation in matters of lay health education and partly the reluctance of the press in the past to publish articles dealing with the physiology of reproduction and sex hygiene.

*This is the fifth contribution sponsored by the Cancer Committee of the Michigan State Medical Society.

Both of these situations are being rapidly corrected.

While it is true that we do not always know the cause of human cancer, it is also true that cancer rarely develops in cervixes properly repaired following delivery. Cancer in any location rarely begins in normal healthy tissue. A survey of a large series of patients with cancer of the cervix has shown that a negligible few had had cervical lacerations repaired. This is an extremely fertile field for preventive medicine. It is believed by some gynecologists that the torn cervix should always be treated surgically before the menopause, but it is doubtful if this is early enough. To the surgeon it should be of interest that nearly 10 per cent of cancers of the cervix occur in retained cervical stumps following partial hysterectomy. Attention has been called to the fact that in skilled hands the mortality of complete hysterectomy is but slightly higher than that of supracervical hysterectomy. It has also been shown that vaginal hysterectomy is a practical and safe operation and one which should play an important rôle in prevention of cancer of the cervix.

If cancer of the cervix is to be successfully combated it is not enough that women report to their physician when symptoms appear. Routine semi-annual pelvic examination of women who have borne children is necessary. The majority of women with cancer of the cervix coming under the observation of the medical profession are in a late stage of the disease and the majority of these patients have not had a pelvic examination for years. The average mother who is a patient in a hospital, the clinic or in the general practice of medicine usually does not receive a pelvic examination unless there are symptoms relative to this area. Cancer of the skin or mouth may be detected by the patient but the cervix can be observed only by the physician. Every physician must spread the doctrine that not only should women report to their physician the moment there are any warnings, signs or symptoms of cancer, but that women after their first childbirth should report for pelvic examination twice yearly. This, of course, will not entirely eliminate cervical cancer deaths, but the present situation, where less than 5 per cent of this disease is seen in an early stage, will be greatly improved.

Even with semi-annual surveys in vogue, inspection of the cervix is not enough. Every physician cannot be expected to be a cancer expert and even if he were he could not diagnose or rule out cancer in every instance. Microscopical examination of tissue from the suspected area is necessary. There can be no objection to biopsies of the cervix, skin or mouth if adequate treatment is instituted immediately. It is regrettable that in some smaller hospitals and communities competent and prompt tissue diagnostic service is not available. By biopsy we include the diagnostic curettage which is particularly important not only to establish the diagnosis of malignancy of the fundus but to determine the degree of malignancy and sensitivity to irradiation—important factors in treatment. Without microscopical tissue examinations at least 10 per cent of early cancers of the uterus would be undiagnosed. There is nothing more welcome to patient and physician than a negative pathological report when tissue from a suspected cancer has been examined microscopically.

The opinion is rather general that uterine cancer usually occurs in women beyond 35 years of age and particularly beyond the menopause. While this is true of about 90 per cent of such cases, there is still an important 10 per cent occurring between the ages of twenty-five and thirty-five. Cancer of the cervix is obviously becoming more prevalent in the third decade. The disease, therefore, cannot be eliminated on the basis of age.

Choice of treatment of uterine cancer does not enjoy a complete uniformity of opinion. Nor is this necessary. Good results have been obtained by more than one method of treatment. It is necessary in this, as in other diseases, that each specialist recognize and appreciate the value of and indications for treatment in specialties other than his own. Nothing is so disastrous to the cancer patient as the stubborn and exclusive application of methods generally known to be ineffective, or effective only when combined with other forms of treatment. Regardless of the extent to which surgical treatment is employed, radium and deep x-ray therapy are of great, if not major, importance. There is probably more definite indication for surgery, alone or combined with irradiation, in cancer of the fundus than in that

of the cervix. There are some who believe that only x-ray and radium should be used in treating malignancy of the cervix. The last chapter in cancer treatment has certainly not been written and true progress must depend upon complete freedom from dogmatism.

The detection of early cancer is not a one-man job. It may require the coöperation of the patient, the family doctor, the pathologist, the surgeon, the radiologist and the radiotherapist. Even then, a definite diagnosis is not always possible.

In no form of cancer does the value of the family physician stand out so prominently as in cancer of the cervix. His position will be enhanced by aggressiveness both in cancer diagnosis and cancer education.

Slendering While You Sleep

The Manchester Guardian comments in rhyme on an article in the *Journal of the American Medical Association* to the effect that one loses weight during his sleeping hours. The average person is presumed to weight 1.3 pounds less when he rises in the morning than when he retired the night before. This method of slimming has a certain disadvantage inasmuch as the loss is recovered during the day. *The Manchester Guardian* poet, after recounting the various methods of weight reduction, prefers the *Journal A. M. A.* method.

There are those who slim by antic,
And by exercises frantic,
As they roll with Corybantic
Zeal around the bedroom floor;
There are those who trust to diet
And, to keep the waist-line quiet,
Run to fruitarian riot
And to grape-fruit by the score.

Others nurse a hopeful notion
That some patent pill or potion
Will remove without commotion
Any surplus seam or fold;
Some to Turkish baths have bounded,
Where, by clouds of steam surrounded,
They can get themselves well pounded
By a bath attendant bold.

As for me, with some aversion
I regard that rash excursion,
Nor shall diet or exertion
Represent the path I tread.
Let them dope, or jump, or simmer,
Those are lamps that feebly glimmer—
How much better to grow slimmer
As one simply stays in bed!

And if grinning friends turn traitor
As they see one growing greater,
'Cos the tonnage turns up later
As the day draws near its close,
One can spurn all sneers and scorning
With the just and truthful warning:
"You should see me in the morning—
I was sylph-like when I rose!"

MEDICO - LEGAL DEPARTMENT

EFFECT OF PATIENT'S NEGLIGENCE

By *Mr. Neal Fitzgerald*†

A malpractice action, being a species of a tort action at law, is subject to the same defenses as an ordinary tort action. Speaking generally, the plaintiff, in tort actions, cannot prevail unless he can prove two things: first, that the defendant has been guilty of negligence,—that is, has not exercised due care in performing certain actions, or has omitted to perform certain actions which he should have performed; secondly, that the plaintiff himself has been guilty of no contributory negligence. Contributory negligence is careless acting, or omitting to perform a necessary act, on the part of the plaintiff. The negligence predicated, of course, must be a proximate cause of the plaintiff's damage or it won't be considered.

So in a malpractice action, if the doctor can show in his defense that a proximate cause of the damage the plaintiff seeks to prove was negligence on the part of the plaintiff himself, he can relieve himself of liability. It should also be borne in mind in this connection that the doctrine of comparative negligence is not supported in this state, and that if both the physician and patient were negligent, the fact that the defendant physician is shown to have been negligent in a far greater degree than the patient, will not permit the plaintiff to recover. The true doctrine is that the plaintiff must show himself to be free of any contributory negligence whatsoever before he can collect damages.

There are many different types of contributory negligence on the part of patients. It has been held, for instance, that a physician could not be forced to respond in damages to a patient who, in violation of his instructions, removed a fractured arm from the sling at various times, which action contributed to an unfavorable result. It is the duty of the patient to coöperate with the

doctor and to follow out the instructions given. The law recognizes the fact that a patient's recovery depends not on a single factor, the treatment administered, but on two factors: the treatment, plus a course of action by the patient in accordance with the doctor's orders. Therefore, the foolish patient who pays for advice and then refuses to follow it, not only finds himself out of pocket financially and with a possible bad result, but also without a legal remedy. But isn't this poetic justice?

The law goes even farther in this respect and says that, even though the physician gives the patient no instructions, it is the patient's duty to exercise ordinary prudence and care as would be expected of a person in his condition, and, if he fails to do so, his failure will prevent recovery from the physician. What constitutes ordinary prudence and care in each particular case is a question to be decided by the jury.

Every doctor has at sometime or other in his practice run across the patient who either because of the pain involved or for some other reason refused to permit him to pursue a course of treatment which he knows to be the proper procedure in such a case. When this happens, a doctor will sometimes resort to a substitute technique which may or may not be as efficacious. Under such circumstances, no responsibility attaches to the physician or surgeon if the results obtained from the substitute treatment are not as good as would have followed from the usual and ordinary method of procedure, which the patient refused to permit. In such a case, however, it is well for the doctor to be certain that his nurse is present and can testify that the patient did refuse to permit the ordinary routine to be followed. The memory of the patient can become very vague between the day of treatment and the day of trial, and he may unfortunately be unable to recall any objections on his part to any treatment which the doctor attempted to administer.

However, the patient is under no duty to submit to treatment that is injurious and painful and such as no practitioner of ordinary skill and ability would adopt. The doctor is only protected if and when the patient refuses the usual and ordinary method of treatment.

A patient who does not return for further treatment, if so instructed by his physician, cannot recover if injury results from

†Mr. Fitzgerald is a member of the law firm of Douglas, Barbour, Disenberg and Purdy, the attorneys for the Michigan State Medical Society.

his failure. However, if the patient does not return because he discovers that his condition is not improving because of previous negligent treatment, he cannot then be said to be guilty of contributory negligence, and can recover.

It has also been held not to be contributory negligence for a patient not to consult another doctor unless he is fully aware that his injury has not been, and is not being, properly treated. This is even truer when the patient has been constantly reassured by the doctor and told that his progress is satisfactory and a slow recovery is to be expected.

In one case it was held that a physician had been guilty of malpractice and injured a patient, but also that the patient himself by his own want of care had aggravated the injury. In that event, the physician was only liable for the injury proximately resulting from his own negligence, and not for the aggravation caused by the patient's lack of care. This situation is not to be confused with the one previously referred to in our discussion of comparative negligence, as it will be noted that here the patient's negligence was not a partial cause of the injury itself, but merely aggravated an already caused and existing injury.

UNIVERSITY OF MICHIGAN
THE DEPARTMENT OF POSTGRADUATE MEDICINE
and the
MICHIGAN STATE MEDICAL SOCIETY

announce

Intensive Postgraduate Courses

Detroit

Pediatrics	April 20, 21 and 22
Proctology	April 27, 28 and 29
Genito-urinary Diseases	April 30-May 2
Gynecology, Obstetrics and Gynecological Pathology....	May 18-23
General Medicine	May 25-30

Ann Arbor

Electrocardiographic Diagnosis	April 6-11
Diseases of Metabolism.....	March 30-April 3
Medical Military Course.....	April 12-25
Ophthalmology and Otolaryngology.....	April 27-May 2
Roentgenology	June 29-August 7
Laboratory Technique	June 29-August 7

For further information, address:

Department of Postgraduate Medicine
University Hospital
Ann Arbor, Michigan

DEPARTMENT OF SOCIETY ACTIVITY

C. T. EKELUND, M.D., Secretary

GOVERNOR FITZGERALD HEARS MEDICAL VIEWPOINT ON CRIPPLED-AFFLICTED CHILD PROBLEM

A Special Committee appointed by the Executive Committee of The Council on March 18 (Drs. Grover C. Penberthy, Henry Cook, H. H. Cummings, L. Fernald Foster, S. W. Insley, and Ralph H. Pino) met with Governor Fitzgerald on Wednesday, March 25, for discussion of the general problems of medical relief and in particular those of the afflicted-crippled child work.

Dr. Penberthy advised the Governor that the Michigan State Medical Society knows the facts and desires to help him. Dr. Cummings spoke of the flaws in the economic filter and that 4,000 Michigan doctors are vitally interested in a solution of the crippled-afflicted problem. Dr. Insley outlined the surveys made by the State Society's Economic Committee on this subject and presented statistics. Dr. Foster reviewed the development of the medical filter boards, their integration in all but four counties of the State, and the success in those counties using the filter. Dr. Cook presented the general picture of medical relief in all its divisions, as contained in the following letter drafted by the Committee:

Hon. Frank D. Fitzgerald, Governor,
State of Michigan,
Lansing, Michigan.

Dear Governor:

It is with a sense of great responsibility that our committee of the Michigan State Medical Society approaches you today. We are hopeful that we have been able to impress you with our sincerity of purpose in an effort to assist in the solution by you of some of the problems of the people of the State of Michigan in which our profession has a mutual interest.

I believe that it can be substantiated that members of the medical profession have always been willing to give their best service at all times in the interest of public health. This may have been questioned, but, if so, it was done by those who were misinformed. I can assure you that at this time the members of the medical profession in Michigan are of the opinion that the interests of the people go hand in hand with the doctors' interests and that any efforts made in behalf of the medical profes-

sion, should they be contrary to public welfare, should not be given approval.

If plans for a permanent welfare service are to be drawn, this premise is most important: That any necessary service given to the people in which the vendor is not given reasonable compensation is likely to result in an inferior quality of service and cannot endure.

Certain fundamental principles should be considered in the development of any plan of medical relief:

First, medical service must include necessary quantity and good quality of medical care with provision of sufficient monies to operate the same; also absolute preservation of the personal relationship between patient and private physician.

Second, stringent regulations to tighten economic investigation in order to eliminate anyone who is not entitled to medical relief; medical care given to the unworthy will unnecessarily increase the cost and may deprive those who are actually entitled to the service from receiving it.

Third, a proper determination of medical need of the applicant is essential to the efficient administration of any medical relief program. Unnecessary hospitalization may be avoided by a board of three or more physicians conducting examinations of each applicant (stripped).

In order to safeguard these principles just stated, it is our opinion that medical relief should always be separate and divorced from a public health department and should be directed by a physician acting as an assistant to the relief director of the state, in order that the general plan of administration throughout the state should be uniform, using the most successful procedures.

The Michigan State Medical Society most respectfully offers the coöperation of its members in the solution of this problem of medical relief or any other problem in which you may at a future time desire its help.

Very respectfully yours,

MICHIGAN STATE MEDICAL SOCIETY

By

GROVER C. PENBERTHY, M.D.,
President

HENRY COOK, M.D.,
Chairman of Council

H. H. CUMMINGS, M.D.
L. FERNALD FOSTER, M.D.
S. W. INSLEY, M.D.

Governor Fitzgerald showed great interest in the integration of the filter system, and the sincerity of the medical profession in efforts to aid him.

He told the Committee he intends to appoint a commission to outline legislation designed to revamp and coöperate all State relief agencies, and that the medical profession will be represented on that commission.

The Governor asked how much would be the total cost if physicians were paid accord-

JOUR. M.S.M.S.

ing to Schedules A and C during April, May, and June, 1936. Dr. Insley replied that his Committee would send these figures to the Governor at once.

SOCIAL SECURITY IN MICHIGAN

ONE of the provisions of the Federal Government in making allotments to states under the Social Security Act for public health, or maternal and child welfare programs, is that such programs are to be developed in consultation with the medical societies of the states. Anent the program in Michigan such a consultation was held in Detroit, on February 17, when several of your officers and committeemen met with Dr. Slemons and Dr. Lillian Smith of the State Department of Health.

Tentative plans broached at that time contemplate the enrollment of six physicians, six sanitary engineers and four nurses in three to four months' courses at the University of Michigan, to fit them for administrative duties in new or existing county or district departments of health. Funds for this project are available through the United States Public Health Service.

A second project purposes to enroll fifteen graduate nurses in public health courses of three or four months at any approved training center in order to fit them to carry on educational programs in maternal and child welfare and in public health. An amount of \$89,000.00 is available for this purpose through the Children's Bureau of the Department of the Interior. After the preliminary training period, these nurses are to be assigned throughout the state at a salary of \$120.00 per month, plus car allowance. They are to conduct classes for women in anatomy and physiology, hygiene of pregnancy and the puerperium, care of infants and young children, control of communicable disease, habit training and adolescence, etc. Classes in hygiene and communicable diseases are to be conducted in schools and these nurses are also to be available to inspect children for communicable disease in schools.

There are forty-three counties in Michigan without local health agencies of any kind. It is expected that most of the effort will be made in these areas.

Since this program touches that of the Maternal Health and Preventive Medicine

Committees of the Michigan State Medical Societies, it is to be resubmitted to these committees shortly after April 1.

Maternal health in the United States is not one of the best examples of progress in medical practice; there is room for improvement. Whether the sought improvement is to be realized in the results of this program remains to be seen. It is doubtful unless the program merits and receives the coöperation of the profession in its actual operation. And, the actual operation of the program will depend very largely upon the personal qualifications of the nurses who will do the work. We are told that they are being very carefully picked and that the qualifications are very exacting.

THE WAY OF ONE FOUNDATION

IN seven counties of Michigan an experiment of very great interest is going on. The experiment is evidently an attempt to determine how much public health is purchasable. That public health is a purchasable commodity has long been recognized, but no one has ever demonstrated the reasonable limits within which this axiom is true.

In these seven counties (Allegan, Barry, Eaton, Hillsdale, Van Buren, Branch and Calhoun) the W. K. Kellogg Foundation has assumed more or less complete financial responsibility for public health administration. Other foundations at other times and in other places have conducted similar extensive and intensive public health programs. In this instance there is the very noteworthy difference, however, that the Foundation has recognized that the physicians practicing within these communities are the *natural* purveyors of public health, that no foundation, however spendthrift its program, can accomplish alone what it can with the help and active support of the physicians. The public health, after all, is but the summation of the health of the individuals.

Accordingly, for several years past the W. K. Kellogg Foundation has gone about making friends of the physicians. In the seven counties there are approximately 260 physicians and all but one are coöperating in the public health program. The foundation has offered courses at recognized teach-

SOCIETY ACTIVITY

ing centers to general practitioners and 73 per cent of them (exclusive of those in Battle Creek) have availed themselves of these opportunities.

The latest project is a two-weeks intensive course offered at the Washington University School of Medicine in St. Louis. About one hundred physicians are expected to leave Battle Creek on April 12 and go back to school until April 25. The two weeks of post-graduate training includes work in obstetrics, heart disease, allergy, blood diseases, infant feeding, preventive pediatrics, conduct of practice and handling of common conditions, infectious diseases, surgical diagnosis, tuberculosis, et cetera.

In sponsoring this and previous educational opportunities the W. K. Kellogg Foundation has made these seven counties a better place in which to be born and live. It is giving to these people a guarantee of a good quality of medical practice and a hundred foci for the practice of and education in preventive medicine.

RELIEF MEDICINE

APPENDED herewith are some interesting figures showing the cost of medical care to relief clients tabulated by counties. Although there is a variation of from 4 cents to \$2.15 per relief case there are a large number of counties in which the figure varies within 20 per cent above and below one dollar with an average of 82 cents for the month. These figures were obtained from the office of the State Emergency Welfare Relief Administration. We hope to be able to publish similar tabulations for succeeding months as they become available.

ANALYSIS OF COUNTY MEDICAL COSTS— JANUARY, 1936

Counties	Total Relief Cases	Total Medical Cases	Total Medical Costs	Costs per Relief Case	Costs per Medical Case
Alcona	149	39	\$ 171.00	\$1.14	\$4.38
Alger	215	34	123.00	.57	3.61
Allegan	543	13	26.00	.04	2.00
Alpena	243	27	63.00	.25	2.33
Antrim	217	30	159.00	.73	5.30
Arenac	159	23	162.00	1.01	7.04
Baraga	183	32	144.00	.78	4.50
Barry	361	102	654.00	1.81	6.41
Bay	1334	371	1,100.00	.82	2.96
Benzie	316	36	235.00	.74	6.52
Berrien	1581	268	495.00	.31	1.84
Branch	354	47	209.00	.59	4.44
Calhoun	1517	144	481.00	.31	3.34
Cass	568	78	580.00	1.02	7.43
Charlevoix	413	58	131.00	.31	2.25
Cheboygan	401	52	268.00	.66	5.15
Chippewa	292	79	96.00	.32	1.21
Clare	279	36	265.00	.94	7.36
Clinton	370	47	361.00	.97	7.68
Crawford	112	24	151.00	1.34	6.29
Delta	1392	393	929.00	.66	2.36
Dickinson	825	71	363.00	.44	5.11

Eaton	424	50	197.00	.46	3.94
Emmet	331	29	79.00	.23	2.72
Genesee	2776	1035	5,468.00	1.96	5.28
Gladwin	139	17	73.00	.52	4.29
Gogebic	1036	149	793.00	.76	5.32
Gr. Traverse	370	46	80.00	.21	1.73
Gratiot	641	77	410.00	.63	5.32
Hillsdale	407	34	179.00	.43	5.26
Houghton	2295	366	1,587.00	.69	4.33
Huron	250	12	42.00	.16	3.50
Ingham	2307	707	1,465.00	.63	2.07
Ionia	745	121	574.00	.77	4.74
Iosco	223	32	200.00	.89	6.25
Iron	773	147	814.00	1.05	5.53
Isabella	213	44	342.00	1.60	7.77
Jackson	2947	605	2,987.00	1.01	4.93
Kalamazoo	1569	1667	1,510.00	.96	.90
Kalkaska	133	25	133.00	1.00	5.32
Kent	4505	1571	4,565.00	1.01	2.90
Keweenaw	185	19	137.00	.74	7.21
Lake	203	25	184.00	.90	7.36
Lapeer	348	92	649.00	1.86	7.05
Leelanau	175	7	28.00	.16	4.00
Lenawee	634	59	452.00	.71	7.66
Livingston	263	31	156.00	.59	5.03
Luce	87	26	64.00	.73	2.46
Mackinac	206	35	219.00	1.06	6.25
Macomb	849	103	461.00	.54	4.47
Manistee	433	112	389.00	.89	3.47
Marquette	833	112	854.00	1.02	7.62
Mason	320	43	101.00	.31	2.34
Mecosta	358	89	381.00	1.06	4.28
Menominee	624	42	222.00	.35	5.28
Midland	228	70	430.00	1.88	6.14
Missaukee	127	33	217.00	1.70	6.57
Monroe	510	97	550.00	1.07	5.67
Montcalm	654	146	484.00	.74	3.31
Montmorency	97	8	80.00	.82	10.00
Muskegon	1592	339	1,805.00	1.13	5.32
Newaygo	348	35	159.00	.45	4.54
Oakland	3291	892	4,323.00	1.31	4.84
Oceana	240	45	177.00	.73	4.02
Ogemaw	167	24	228.00	1.36	9.50
Ontonagon	260	58	333.00	1.28	5.74
Osceola	280	37	277.00	.98	7.48
Oscoda	83	24	179.00	2.15	7.45
Otsego	138	24	93.00	.67	3.87
Ottawa	403	57	206.00	.51	3.61
Presque Isle	294	36	48.00	.16	1.33
Roscommon	92	10	74.00	.80	7.40
Saginaw	2044	297	795.00	.38	2.67
Sanilac	251	34	112.00	.44	3.29
Schoolcraft	251	41	243.00	.96	5.92
Shiawassee	637	78	353.00	.55	4.52
St. Clair	1410	155	526.00	.37	3.39
St. Joseph	473	62	216.00	.45	3.48
Tuscola	339	7	13.00	.03	1.85
Van Buren	673	28	177.00	.26	6.32
Washtenaw	1233	95	718.00	.58	7.55
Wayne	22590	7522	18,987.00	.84	2.52
Wexford	662	11	43.00	.06	3.90
Entire State	78794	19798	\$64,807.00	\$0.82	\$3.27

APRIL FIRST

From the By-Laws of the Michigan State Medical Society:

Chapter 8. Annual Dues.

Section 1. The Secretary of each county society shall collect and forward the dues to the State Secretary on or before April first of each year.

Section 2. Any member in arrears after April 1st of each official year shall stand suspended until his name is properly recorded and his dues for the current year properly remitted.

TWO IMPORTANT MEDICAL GOLF TOURNAMENTS

1. American Medical Golfing Association, 22nd Annual Competition, Mission Hills and Kansas City Country Clubs, Kansas City, Mo., Monday, May 11, 1936 (first day of annual American Medical Association meeting).

2. Michigan State Medical Society's first annual tournament, Detroit, Tuesday, September 22, 1936, 1:30 P. M. (The local Committee is negotiating for one of the best courses in the district, but arrangements are not as yet complete.)

SOCIETY ACTIVITY

ANALYSIS OF EXPENDITURES FOR 1935

Society Expense—1935

January	
Western Union	\$ 9.28
Addressograph Sales	2.46
Dr. B. R. Corbus and Dr. R. R. Smith— travel	35.00
	\$ 46.74

February	
Joint Committee on Public Health Edu- cation	\$500.00
Michigan Bell Telephone	7.65
Western Union Telegraph Co.	4.29
Addressograph Sales	1.36
Railway Express .....	.62
Michigan Bell Telephone	14.80
B. R. Corbus—Travel	68.00
J. H. Powers—Travel	8.75
	605.47

March	
Western Union Telegraph Co.	1.55
Railway Express	1.20
Addressograph Sales	2.72
Michigan Bell Telephone	7.25
Florence Ames, Secy. Conf.	2.80
F. L. S. Reynolds, Secy. Conf.	45.00
E. J. Dougher, Secy. Conf.	7.84
G. C. Stewart, Secy. Conf.	66.00
P. Drummond, Secy. Conf.	5.25
L. F. Foster, Secy. Conf.	7.84
B. A. Holm, Secy. Conf.	18.30
E. F. Sladek, Secy. Conf.	22.60
M. G. Wood, Secy. Conf.	14.70
C. W. Colwell, Secy. Conf.	3.85
B. J. Graham, Secy. Conf.	7.70
H. A. Adrounie, Secy. Conf.	7.70
R. A. Springer, Secy. Conf.	8.60
T. Y. Ho, Secy. Conf.	7.00
H. Kessler, Secy. Conf.	22.50
R. H. Nichols, Secy. Conf.	13.20
Chas. A. Teifer, Secy. Conf.	16.32
J. J. McCann, Secy. Conf.	7.00
B. T. Montgomery, Secy. Conf.	30.65
R. L. Finch, Secy. Conf.	4.41
E. J. Brenner, Secy. Conf.	24.50
W. H. Barnum, Secy. Conf.	11.55
John Lawther, Secy. Conf.	5.95
G. C. Penberthy—Travel	32.00
	405.98

April	
Kenneth Pierce, Secy. Conf.	10.50
Addressograph Sales	3.49
Western Union Telegraph	3.69
S. C. Moore, Secy. Conf.	13.12
Elinor E. Clark, Secy. Conf.	26.21
John Whalen, Secy. Conf.	8.75
University of Michigan, Secy. Conf.	21.00
B. R. Corbus—Travel	22.00
Insurance and postage on coupons ret'd.	.20
	108.96

May	
Michigan Bell Telephone Co.	10.40
Addressograph Sales	4.20
Western Union Telegraph Co.	4.14
E. Graversen	1.50
Michigan Bell Telephone Co.	21.20
Survey Graphic	2.00
A. W. Chase, Secy. Conf.	2.59
B. R. Corbus	3.76
B. R. Corbus—Travel	169.25
C. T. Ekelund—Travel	75.00
C. T. Ekelund—Travel	61.72
	355.76

June	
Dr. Wm. Carey	4.50
Postal Telegraph	1.61
Addressograph Sales	2.44
Smith-Searle & Strawhecker	5.00
U. S. Chamber of Commerce	7.50
	21.05

July	
Michigan Bell Telephone Co.	20.50
Grand Rapids Trust Co.	1.29
Western Union Telegraph Co.	2.28
Postage and Insurance on coupons ret'd.	.45
	24.52

August	
Michigan Bell Telephone Co.	11.40
C. T. Ekelund	1.92
H. A. Luce	4.40
Western Union Telegraph Co.	2.27
Addressograph Sales	4.22
Michigan Bell Telephone Co.	9.90
B. R. Corbus	5.00
B. R. Corbus—Travel	7.80
C. T. Ekelund—Travel	16.80
	63.71

APRIL, 1936

September	
E. Graversen .....	.35
Western Union Telegraph Co.	4.98
Addressograph Sales	1.99
Michigan Bell Telephone Co.	12.85
J. H. Dempster	8.98
Columbia Storage & Transfer Co.	12.02
D. L. Gadbery	35.00
B. R. Corbus and R. R. Smith—Travel	8.85
J. H. Dempster—Travel	31.00
	116.02

October	
Western Union Telegraph Co.	4.50
H. A. Luce	10.47
Hotel Ojibway	25.44
C. T. Ekelund	3.50
Camera Shop	3.55
Addressograph Sales .....	.94
Wm. J. Carey	3.75
Columbia Storage & Transfer Co.	24.00
Michigan Bell Telephone Co.	8.30
D. L. Gadbery	20.00
B. R. Corbus—Travel	8.50
C. T. Ekelund—Travel	12.48
B. R. Corbus—R. R. Smith—Travel...	32.00
B. R. Corbus—Travel	17.00
R. R. Smith—Travel	89.21
	263.64

November	
Addressograph Sales	3.26
Preusser Jeweler	1.60
Elks Club	25.55
Western Union Telegraph Co.	4.57
Shank Storage Co.	68.95
C. T. Ekelund	4.54
American Medical Association .....	.50
Beurmann-Marshall, Inc.	6.15
R. R. Smith—Reprints	17.25
C. T. Ekelund—Travel	33.50
Grover C. Penberthy—Travel	30.00
B. R. Corbus—Travel	4.50
Roy H. Holmes—Travel	12.24
C. T. Ekelund—Travel	19.80
	232.41

December	
Western Union Telegraph Co.	4.44
B. R. Corbus	2.50
Beurmann-Marshall, Inc.	5.75
Michigan Bell Telephone	27.25
Smith Floral Co.	5.62
R. E. Olds Co.	40.72
W. L. Hermes Co.	5.95
Postage reimbursement .....	.22
Postal Telegraph Co. ....	.90
Henry Cook	8.65
Collect Telegram .....	.63
C. T. Ekelund—Travel	16.80
	119.43

Less—Unexpended fund from Code Authority	2.34
Refund on B. R. Corbus' Fidelity Bond	3.63
	5.97
	\$2357.72

Miscellaneous General Office Expense—1935

January	
Accounts charged off	\$ 4.86
C. F. Jean—Janitor	2.00
	6.86

February	
Accounts charged off	51.25
Bank charges	1.02
H. W. TenBroek & Sons	11.00
C. F. Jean—Janitor	2.00
	65.27

March	
Accounts charged off	18.27
	18.27

April	
Accounts charged off	6.95
Exchange charge on protested check..	.50
	7.45

May	
Accounts charged off	18.00
Ernst & Ernst	246.38
	264.38

July	
O. E. Atwood, Secretary of State, non- profit corporation filing fee	2.00
	2.00

September	
Grand Rapids Insurance Co.	62.50
	62.50

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SOCIETY ACTIVITY

October		
Accounts charged off.....	43.97	43.97
November		
Bank Charge97	
Grand Rapids Trust Co.....	5.50	
Grand Rapids Insurance Agency.....	23.84	
		30.31
December		
L. C. Smith Typewriter Co.....	116.40	
Postage on coupons.....	.06	
The Ediphone Co.....	27.56	
		144.02
	\$ 645.03	
Less—Refund on Fidelity Bond of Dr. F. C. Warnshuis.....		19.45
		\$625.58

Printing, Stationery and Supplies Expense—1935

January		
Kessler Office Supplies.....	\$ 4.99	
Ward-Schopps Co.....	49.65	
Maurice Polack, Inc.....	3.61	
		58.25
February		
Ward-Schopps Co.....	31.17	
Remington-Rand, Inc.....	7.21	
Kessler Office Supplies.....	6.84	
Maurice Polack, Inc.....	6.80	
Mills-Broderick Printing Co.....	109.81	
Tisch-Hine Co.....	2.87	
		164.70
March		
Kessler Office Supplies.....	6.69	
Mills-Broderick Printing Co.....	37.24	
		43.93
April		
Kessler Office Supplies.....	1.03	1.03
May		
Kessler Office Supplies.....	11.03	
Mills-Broderick Printing Co.....	23.07	
Maurice Polack, Inc.....	3.61	
		37.71
June		
Kessler Office Supplies.....	1.57	1.57
July		
H. K. Harris.....	5.00	
Kessler Office Supplies.....	.62	
Postmaster	2.12	
		7.74
August		
Kessler Office Supplies.....	4.27	
Maurice Polack, Inc.....	3.61	
Mills-Broderick Printing Co.....	6.95	
Railway Express Agency.....	22.02	
Ward-Schopps Co.....	8.50	
		45.35
September		
Kessler Office Supplies.....	7.63	
Bixby Office Supplies.....	.72	
		8.35
October		
Kessler Office Supplies.....	5.82	
Maurice Polack, Inc.....	3.61	
		9.43
November		
Ward-Schopps Co.....	25.75	
Gregory Mayer & Thom Co.....	16.54	
General Printing Co.....	4.32	
Postmaster	11.20	
Maurice Polack, Inc.....	2.58	
Mills-Broderick Printing Co.....	34.59	
Ward-Schopps Co.....	91.67	
		186.65
December		
Acme Letter Service.....	30.14	
Wm. L. Hermes Co.....	32.49	
General Printing Co.....	1.88	
Gregory, Mayer & Thom Co.....	19.08	
Maurice Polack, Inc.....	3.61	
		87.20
Plus unpaid bills.....	\$ 651.19	16.64
		\$668.55

Post Graduate Conferences Expense—1935

July		
John L. Law.....	\$ 4.00	
James H. Maxwell.....	4.00	
Howard McCluskey	24.00	
C. C. Sturgis.....	27.00	
F. C. Collier.....	27.00	
A. C. Furstenberg.....	27.00	
S. Milton Goldhamer.....	4.00	
		117.00

September		
B. R. Corbus.....	12.00	12.00
November		
A. M. Campbell.....	27.50	
H. H. Cummings.....	55.00	
J. C. Montgomery.....	27.50	
E. D. Spalding.....	27.50	
R. W. Waggoner.....	55.00	
D. P. Foster.....	27.50	
D. M. Cowie.....	55.00	
D. J. Levy.....	27.50	
G. H. Belote.....	27.50	
F. A. Collier.....	27.50	
A. D. LaFerte.....	27.50	
H. A. Freund.....	27.50	
R. Isaacs	27.50	
G. M. Curtis.....	137.50	
W. E. Keane.....	27.50	
L. J. Hirschman.....	82.50	
H. Henderson.....	27.50	
J. L. Law.....	55.00	
F. N. Wilson.....	27.50	
F. J. Hodges.....	28.00	
		825.50
		\$ 954.50

Economics Committee Expenses—1935

February		
W. H. Marshall.....	\$ 28.70	
Edwards Bros.	132.44	
		161.14
March		
Hotel Statler	3.00	
W. H. Marshall.....	76.40	
		79.40
April		
W. H. Marshall.....	20.80	20.80
May		
Hotel Statler	2.00	
W. H. Marshall.....	12.50	
I. W. Greene.....	12.00	
Edwards Bros.	26.45	
		52.95
June		
W. H. Marshall.....	10.45	10.45
July		
W. H. Marshall.....	3.30	3.30
August		
H. B. Fenech.....	10.20	
Edwards Letter Shop.....	66.95	
E. Graversen .....	.71	
W. H. Marshall.....	11.00	
F. A. Baker.....	6.00	
C. T. Ekelund.....	9.76	
		104.62
September		
V. M. Moore.....	13.80	
V. M. Moore.....	18.60	
U. of M. Union.....	9.00	
C. T. Ekelund.....	19.58	
W. H. Marshall.....	57.80	
I. W. Greene.....	8.40	
F. A. Baker.....	6.31	
		133.49
October		
Edwards Letter Shop.....	3.28	
C. T. Ekelund.....	10.00	
		13.28
December		
Walter W. McPherson.....	140.00	
S. W. Insley.....	4.50	
		144.50
Plus unpaid bill.....		\$ 723.93
		.30
		\$ 724.23

Joint Committee Receipts and Disbursements—1935

Receipts		
Balance from 1934.....		\$ 11.42
January		
Detroit News	\$173.07	173.07
February		
Michigan Dental Society.....	150.00	
Detroit News	76.92	
Michigan State Medical Society.....	500.00	
		726.92
March		
Detroit News	76.92	76.92
May		
Michigan Tuberculosis Association.....	50.00	
Wayne University College of Medicine.....	50.00	
Detroit News	173.07	
Michigan Dental Society.....	50.00	
Michigan State Nurses.....	25.00	
Michigan Department of Health.....	50.00	
Michigan Hospital Association.....	100.00	
		498.07

SOCIETY ACTIVITY

June		
Detroit News	76.92	76.92
July		
Detroit News	76.92	76.92
August		
Detroit News	96.15	96.15
October		
Detroit News	76.92	76.92
November		
Children's Fund of Michigan.....	1500.00	
Detroit News	173.07	
		1673.07
		<u>\$3486.38</u>

Disbursements

January		
Mabel Kelly	\$100.00	
Herman Riecker	75.00	
		\$ 175.00
February		
Mabel Kelly	200.00	
Herman Riecker	150.00	
		350.00
March		
Mabel Kelly	100.00	
Herman Riecker	75.00	
		175.00
April		
Mabel Kelly	100.00	
Herman Riecker	75.00	
		175.00
May		
Don Lyons	48.00	
Mabel Kelly	100.00	
Herman Riecker	75.00	
		223.00
June		
Mabel Kelly	100.00	
Herman Riecker	75.00	
		175.00
July		
University of Michigan.....	6.65	
Mabel Kelly	100.00	
Herman Riecker	75.00	
		181.65
August		
Mabel Kelly	100.00	
Herman Riecker	75.00	
		175.00
October		
University of Michigan.....	9.43	9.43
November		
Don Lyons	34.00	
Herman Riecker	225.00	
Mabel Kelly	300.00	
University of Michigan.....	114.36	
		673.36
December		
Herman Riecker	75.00	
Mabel Kelly	100.00	
		175.00
		<u>\$2487.44</u>

Medico-Legal Defense Receipts and Disbursements—1935

Receipts

January		
Dues	\$259.75	\$ 259.75
February		
Dues	717.50	717.50
March		
Dues	1358.50	1358.50
April		
Dues	1855.19	
Coupons	192.50	
		2047.69
May		
Dues	709.04	709.04
June		
Dues	86.53	86.53
July		
Dues	101.62	
Coupons	100.00	
		201.62
August		
Dues	68.25	68.25
September		
Dues	45.75	45.75
October		
Dues	57.95	
Coupons	165.00	
		222.95
November		
Dues	22.12	22.12
December		
Dues	34.48	
Coupon	25.00	
		59.48
		<u>\$5799.18</u>

Disbursements

January		
Douglas, Barbour	\$199.05	
Wm. J. Stapleton, Jr.....	83.33	
		\$ 282.38
February		
Wm. J. Stapleton, Jr.....	83.33	
Douglas, Barbour	325.00	
		408.33
March		
Mills-Broderick Printing Co.....	19.00	
Douglas, Barbour	96.00	
Wm. J. Stapleton, Jr.....	89.99	
Williams Co.	3.00	
		207.99
April		
Douglas, Barbour	183.50	
Wm. J. Stapleton, Jr.....	83.33	
		266.83
May		
Wm. J. Stapleton, Jr.....	83.33	83.33
June		
Wm. J. Stapleton, Jr.....	83.33	
Douglas, Barbour	120.00	
		203.33
July		
Wm. J. Stapleton, Jr.....	86.10	86.10
August		
Wm. J. Stapleton, Jr.....	83.33	
Douglas, Barbour	250.00	
		333.33
September		
Wm. J. Stapleton, Jr.....	83.33	83.33
October		
Wm. J. Stapleton, Jr.....	83.33	83.33
November		
Douglas, Barbour	704.00	
Wm. J. Stapleton, Jr.....	83.33	
		787.33
December		
Wm. J. Stapleton, Jr.....	83.33	83.33
		<u>\$2908.94</u>
Plus unpaid bills.....		25.00
		<u>\$2933.94</u>

Council Expenses—1935

January		
H. E. Perry.....	\$ 46.60	
B. R. Corbus.....	40.00	
H. A. Luce.....	12.63	
		\$ 99.23
February		
B. R. Corbus.....	26.85	
J. H. Powers.....	32.75	
B. H. Van Leuven.....	39.90	
F. A. Baker.....	19.44	
Mid-Winter Meeting of The Council....	113.12	
Henry Cook	14.10	
W. A. Manthei.....	51.02	
Hotel Olds	26.11	
H. H. Cummings.....	15.67	
C. E. Boys.....	24.00	
Harlen MacMullen.....	21.30	
T. F. Heavenrich.....	27.80	
H. R. Carstens.....	10.08	
		422.14
March		
Michigan Union	10.23	
Grover C. Penberthy.....	13.75	
J. H. Powers.....	3.20	
T. P. Treynor.....	22.00	
		49.18
April		
J. H. Powers.....	7.00	
T. F. Heavenrich.....	14.52	
Wm. A. Hyland.....	13.24	
H. R. Carstens.....	4.56	
		39.32
May		
H. R. Carstens.....	6.96	
B. R. Corbus.....	12.60	
T. F. Heavenrich.....	8.74	
Flint City Club.....	37.64	
		65.94
June and July		
J. H. Powers.....	10.11	10.11
August		
B. R. Corbus.....	22.00	
C. E. Boys.....	17.16	
T. F. Heavenrich.....	15.02	
F. A. Baker.....	12.43	
H. R. Carstens.....	11.28	
H. A. Luce.....	12.60	
C. T. Ekelund.....	8.40	
		98.89
September		
J. H. Powers.....	63.05	
G. C. Hafford.....	19.10	
Harlen MacMullen.....	26.40	
Country Club	17.25	
T. F. Heavenrich.....	53.64	
		179.44

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October

H. R. Carstens	14.07	
H. H. Cummings	21.30	
Hotel Ojibway	33.84	
C. T. Ekelund	100.63	
V. M. Moore	38.28	
C. E. Boys	54.68	
Wm. A. Hyland	36.00	
		298.80

November

Statler Hotel	33.53	
C. E. Boys	13.95	
T. F. Heavenrich	26.86	
Henry Cook	51.12	
P. R. Urmston	88.20	
		213.66

December

Statler Hotel	28.01	
Henry Cook	28.25	
W. A. Manthel	20.50	
T. F. Heavenrich	7.20	
B. R. Corbus	9.00	
		92.96

Plus unpaid bills	\$1569.67	
	51.52	
	\$1621.19	

Public Relations Committee Expenses—1935

December

L. Fernald Foster—Travel.....	\$ 69.60	\$ 69.60
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Cancer Committee Expenses—1935

June

University of Michigan.....	\$ 39.45	
Edwards Bros.	28.00	
R. W. Morrissey	50.00	
		117.45

August

R. W. Morrissey.....	50.00	
Edwards Bros.	17.00	
University of Michigan	15.00	
		82.00

October

University of Michigan.....	15.00	
R. W. Morrissey.....	50.00	
		65.00

November

University of Michigan.....	58.40	
Edwards Bros.	56.00	
		114.40
		\$ 378.85

Delegates to American Medical Association Expenses—1935

June

L. J. Hirschman	\$ 96.48	
H. A. Luce.....	99.48	
C. F. Moll.....	86.87	
		202.24

July

J. D. Brook.....	95.68	
C. S. Gorsline.....	106.56	
		282.83
		\$ 485.07

Legislative Committee Expense—1935

January

James B. Bradley	\$125.00	\$ 125.00
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February

James B. Bradley.....	100.00	
Hotel Olds	32.99	
		132.99

March

Hotel Olds	105.96	
James B. Bradley.....	314.54	
Mills-Broderick Printing Co.....	15.04	
		435.54

April

James B. Bradley and H. E. Perry....	794.53	
Hotel Olds	190.05	
Philip Riley	47.60	
L. G. Christian.....	51.75	
		1083.93

May

Hotel Olds	259.72	
L. G. Christian.....	188.31	
H. E. Perry.....	85.00	
		533.03

June

L. G. Christian.....	194.14	
James B. Bradley.....	27.82	
H. E. Perry.....	78.91	
Hotel Olds	103.21	
		404.08

July

H. E. Perry.....	57.50	
		57.50

August

Philip A. Riley.....	22.40	
		22.40

September

Hotel Olds	19.93	
		19.93

October

Wm. A. Hyland.....	105.00	
James B. Bradley.....	500.00	
		605.00

November

H. E. Perry.....	33.83	
Wayne County Cafe.....	9.90	
L. G. Christian.....	13.58	
		57.31

December

Wayne County Cafe.....	10.17	
C. F. Snapp.....	36.00	
		46.17

Plus unpaid bills.....	\$3522.88	
	20.88	
	\$3543.76	

Radio Committee Expenses—1935

March

Wm. J. Stapleton, Jr.....	\$ 1.50	\$ 1.50
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July

Wm. J. Stapleton, Jr.....	2.50	2.50
		\$ 4.00

Expenses—1935

	Editor's Salary	Rent	Postage	Reprint Expense	Secretary Salary	Executive Secretary	Stenographers
January	\$250.00	\$ 68.00	\$	\$ 73.50	\$ 333.00	\$	\$ 223.00
February	250.00	68.00	29.00	84.35	333.00	....	171.00
March	250.00	68.00	26.00	342.28	333.00	....	179.00
April	250.00	68.00	55.25	147.75	333.00	....	184.50
May	250.00	68.00	33.00	196.20	333.00	....	235.75
June	250.00	68.00	....	79.20	333.00	....	155.00
July	250.00	68.00	20.00	110.65	333.00	....	159.00
August	250.00	68.00	35.50	170.15	333.00	....	199.00
September	250.00	68.00	....	127.75	333.00	....	164.50
October	250.00	68.00	29.50	....	333.00	....	225.50
November	250.00	....	76.25	69.25	336.67	500.00	339.55
December	250.00	60.00	76.75	25.70	333.33	500.00	270.70
	\$3000.00	\$740.00	\$381.25	\$1426.78	\$4000.00	\$1000.00	\$2506.50

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Maternal Health Committee Expenses—1935

February		
A. M. Campbell.....	\$ 15.26	
		\$ 15.26
May		
A. M. Campbell.....	17.08	
		17.08
July		
Harold C. Mack.....	20.00	
Norman F. Miller.....	18.96	
		38.96
September		
Harold L. Hurley.....	25.80	
		25.80
December		
Norman F. Miller.....	6.70	
		6.70
		<u>\$ 103.80</u>

Preventive Medicine Committee Expenses—1935

August		
Roy H. Holmes.....	\$ 63.30	
James J. O'Meara.....	36.48	
L. Fernald Foster.....	36.60	
		\$ 136.38
September		
C. R. Keyport.....	39.72	
		39.72
October		
A. L. Callery.....	33.60	
Roy H. Holmes.....	16.20	
		49.80
		<u>\$ 225.90</u>
Plus unpaid bills.....		15.45
		<u>\$ 241.35</u>

Annual Meeting Expenses—1935

February		
Merrill Wells	\$ 12.63	
Section Officers	23.43	
J. D. Miller.....	14.40	
		\$ 50.46
May		
B. R. Corbus.....	25.00	
Frank J. Mester.....	3.50	
		28.50
June		
Frank J. Mester.....	3.00	
Western Union	25.88	
		28.88
July		
Thomas Blue Print Service Shop.....	2.32	
		2.32
August		
B. R. Corbus.....	25.00	
Postmaster	35.00	
		60.00
September		
F. L. Rector.....	23.66	
Bard-Parker Co.	10.00	
E. Graversen	47.20	
J. H. Musser.....	88.80	
S. Marx White.....	25.60	
Wolverine Art Shops.....	36.54	
Bruce Publishing Co.....	64.81	
B. R. Corbus.....	87.20	
Milo Arts and Crafts.....	250.00	
Frank J. Mester.....	2.00	
		636.01
October		
General Contractors	84.40	
J. P. LeBlanc.....	35.00	
Edison Sault Electric.....	27.91	
Electrical Contractors	170.43	
R. E. Dodd.....	10.90	
F. J. Ellis & Son.....	16.00	
F. C. Bandy.....	4.50	
Hotel Ojibway	51.71	
B. R. Corbus.....	50.85	
L. W. Wieder.....	26.11	
Geo. W. Hall.....	30.00	
V. Johnson	19.02	
		526.83
		<u>\$1333.00</u>
Credit for Exhibit Booths sold.....		640.00
		<u>\$ 693.00</u>

COUNCIL AND COMMITTEE MEETINGS

1. *March 7, 1936*—Committee on Maternal Health—University Hospital, Ann Arbor—11:00 a. m.
2. *March 15, 1936*—House of Delegates' Committee on Medico-Legal work—Pantlind Hotel, Grand Rapids—2:30 p. m.
3. *March 17, 1936*—Special Committee on Social Security (Maternal and Child Health Phase)—Statler Hotel, Detroit—2:00 p. m.
4. *March 17, 1936*—Legislative Committee—Wayne County Medical Society Building, Detroit—6:30 p. m.
5. *March 18, 1936*—Public Relations Committee—Olds Hotel, Lansing—2:30 p. m.
6. *March 18, 1936*—Executive Committee of The Council, Lansing City Club, Lansing—7:00 p. m.
7. *March 22, 1936*—Medical Economics Committee—Olds Hotel, Lansing—12:30 p. m.
8. *March 24-25, 1936*—Subcommittee of Special Contact Committee to Governmental Agencies—Olds Hotel and the Capitol (two meetings).
9. *March 27, 1936*—Committee on Maternal Health, University Hospital, Ann Arbor—11:00 a. m.
10. *April 1, 1936*—Joint meeting of Committee on Preventive Medicine and Maternal Health Committee—State Board of Health, Lansing—3:00 p. m.
11. *April 8, 1936*—Public Relations Committee—Olds Hotel, Lansing—3:00 p. m.

COMMITTEE DECISIONS

The undue enthusiasm of professional and amateur social workers in increasing the case load of afflicted and crippled children, coupled with an inadequate economic investigation, will break down any program devised to bring reasonable medical care to indigents. No matter how good the medical filter, the other two factors will far outweigh the advantages developed by the work of physicians. (See Public Relations Committee minutes of March 18, item 4(d).)

“Urgency” and “Necessity”—what are the specifications of each? For the PRC recommendation, see minutes of March 18, item 4(d).

The Crippled Children Commission passed the following resolution on February 20, 1936: “In any case where there are payments made for a committed State patient, through parent or guardian (referring to afflicted-crippled children cases) that the reimbursement to the State shall be paid in full before any additional payments are made to the hospital or to the physician.” (See Item 11 of Minutes of Executive Committee, February 26, 1936.)

A booklet containing arguments against the socialization of medicine was the subject of discussion by the Executive Committee of The Council on February 26. (See item 6 of minutes.)

Condition of the bonds of MSMS?—read item 8 of Executive Committee minutes of February 26.

What age groups make up the greater attendance at the Postgraduate Conferences of the Michigan State Medical Society and the Postgraduate Department of the University of Michigan? Is it those graduated less than ten years ago? Is it those graduated between ten and twenty-five years ago? Is it those graduated more than twenty-five years ago? (For answer,

SOCIETY ACTIVITY

see item 3 of minutes of Committee on Postgraduate Medical Education, March 3.)

Have the social aspects of medical care any place in the postgraduate training of physicians who are out in practice? (See item 5 of minutes of Committee on Postgraduate Medical Education, March 3.)

MINUTES OF MEETING OF CANCER COMMITTEE

February 21, 1936

The Cancer Committee held its last meeting at the Olds Hotel in Lansing on Friday, February 21, 1936.

Plans were perfected for extending cancer education to the public through the Cancer Subcommittee. For this purpose duplicate sets of lantern slides are being prepared and will be placed in the hands of Subcommittee members to illustrate lay cancer talks.

To supplement lay cancer education activities, cancer booklets are being prepared which will follow fairly closely the newspaper articles which have appeared under the auspices of the Cancer Committee during the past year.

The next meeting will be held in April.

OSBORNE A. BRINES, M.D., *Chairman*.

MINUTES OF MEETING OF THE EXECUTIVE COMMITTEE OF THE COUNCIL

February 26, 1936

1. *Roll Call*.—The meeting was called to order by Dr. Henry Cook, Chairman, at 3:30 p. m., in the Statler Hotel, Detroit. Present were Drs. Cook of Flint; T. F. Heavenrich of Port Huron; C. E. Boys of Kalamazoo; A. S. Brunk and H. R. Carstens of Detroit; and F. E. Reeder of Flint. Also present were President Grover C. Penberthy, Secretary C. T. Ekelund, Treasurer Wm. A. Hyland, Editor James H. Dempster, L. Fernald Foster, Chairman of Public Relations Committee, and Executive Secretary Wm. J. Burns.
2. *Minutes*.—The minutes of the Third Session of The Council meeting of January 16, 1936, were read. Item 36 relative to sending Committee report on Army Medical Corps to members of Congress in Washington was discussed; motion of Drs. Heavenrich-Boys that the Secretary be directed to mail a copy of the resolutions as approved to each member of Congress in Washington. Carried unanimously. Motion of Drs. Carstens-Heavenrich that the minutes as read be approved. Carried unanimously.
3. *Councilor for Eighth District*.—President Penberthy announced the resignation of Dr. Julius Powers as Councilor of the Eighth District, due to illness. He appointed Dr. Wm. E. Barstow of St. Louis, Michigan, as Councilor of that District to fill the unexpired term of Dr. Powers, to the Annual Meeting of September, 1937.
4. *Practice of Medicine, Osteopathy, etc.*—A report from Attorney Herbert V. Barbour was read stating that no change had been made in the osteopathic litigation in Wayne County as Judge Vincent M. Brennan was away on a vacation and as yet has rendered no opinion.
5. *Medico-Legal*.—Secretary Ekelund reported that he had written Berrien County re its resolution

on payment of Medico-Legal dues for 1936, but had received no reply. Dr. Boys reported that he also had written this County Medical Society fully explaining the importance of Medico-Legal defense, but had received no reply.

6. *Brief on Socialization of Medicine*.—The Brief on Socialization of Medicine recommended by the PRC for debate purposes was outlined. Motion of Drs. Boys-Heavenrich that this be completed, printed, and dispensed to the medical profession of Michigan, following submission to the Medical Economics Committee and to the Public Relations Committee, and reference back to the Executive Committee of The Council later, and after approval by the A. M. A. Carried unanimously.
7. *A. M. A. Booklets on Socialization of Medicine*.—The need for supplying information as developed by the A. M. A. on the socialization of medicine to high schools, colleges, public libraries, Y.M.C.A.'s, Y.W.C.A.'s, to influential citizens, legislators, to some on the lists of the Extension Division was explained by Dr. Foster for the Public Relations Committee. Motion of Drs. Carstens-Boys that the Secretary be authorized to send packages of literature (21 booklets in each) to various individuals, groups, and organizations as found necessary, same to be accompanied by a letter as developed and read by the Executive Secretary. Carried unanimously. It was brought out that the printing of these booklets for the 1,000 packages received by the M.S.M.S. cost the A. M. A. approximately \$2,800 and that this literature had been donated to the M.S.M.S. The Executive Committee placed a vote of thanks to the A. M. A. in its minutes.
8. *Treasurer's Report*.—Dr. Hyland presented three matters for consideration, which report was approved.
Condition of Bonds.—The Chairman of the Finance Committee, Dr. Carstens, reported on the excellent condition of the bonds of the M.S.M.S.; they are in favorable position and have done very well, especially when one considers the sad personal experiences of many individuals who were in the bond market during the past six or seven years. The officers of the M.S.M.S. who selected the bonds owned by the M.S.M.S. are to be congratulated and thanked, Dr. Carstens stated.
9. *Report of Subcommittee on Relief Medicine*.—Dr. Insley reported for his Committee, presenting results of the survey made on the afflicted-crippled child law costs. The findings and deductions from the statistics are not ready as yet. The Subcommittee asked the Executive Committee of The Council for advice relative to a program for border-line cases; is the Subcommittee to try to work out a program for border-line cases based on the principles adopted by the House of Delegates of the M.S.M.S. last September for indigents? The problem is acute due to the great increase in afflicted child cases, afflicted adult cases, and WPA cases. Full discussion. The Subcommittee on Relief Medicine was requested to continue its surveys and findings, and refer same to the Executive Committee of The Council at a later date.
10. *American Foundation Studies in Government*.—The Executive Secretary, at the request of Dr. Pino, presented a letter from Miss Lape of the Foundation asking about action of the M.S.M.S. House of Delegates re Mutual Health Service Plan of 1934. The Executive Secretary was in-

SOCIETY ACTIVITY

structed to send a transcript of the action of the House of Delegates regarding this plan.

11. *Infirmity Hospital in Iron County.*—Dr. W. A. Manthei's report on Iron County Infirmary Hospital was read, and a copy was ordered sent to the Crippled Children Commission for its information. Dr. Manthei was thanked for his help.
The Executive Secretary reported on the Crippled Children Commission's resolution of February 20: "That in any case where there are payments made for a committed State patient, through parent or guardian (referring to afflicted-crippled children cases) that the reimbursement to the State shall be paid in full before any additional payments are made to the hospital or to the physicians."
12. *Annual Meeting.*—The Executive Committee considered plans for the Annual Meeting and, after full discussion, a motion was made by Drs. Boys-Reeder that the next Annual Meeting be held the week of September 20, 1936. Carried unanimously. Motion of Drs. Heavenrich-Boys that the exact dates shall be September 21, 22, 23, 24, 1936. Carried unanimously. The Executive Secretary displayed the floor plan of exhibits, both technical and scientific, and reported progress on invitations to exhibitors and on the various details connected with the approaching meeting being worked out by the President, the Secretary, and the Executive Secretary.
13. *Maternal Health.*—The Executive Secretary asked advice about answering requests for information on this subject. He was instructed to refer all inquirers to their family physicians. Recommendation was made to Secretary Ekelund that he suggest to the larger county medical societies in his Secretary's letter that they develop plans for Mother's Day, such as radio talks, addresses to lay groups, etc., etc.
14. *Memberships.*—The matter of sending membership certificates each year to Honorary and Emeritus members was discussed, and on motion of Drs. Boys-Reeder was ordered done in 1936 and subsequent years. Carried unanimously.
15. *Approval of Bills.*—Miscellaneous bills, for the month of February, were presented by the Executive Secretary at the request of the Chairman of the Finance Committee, and on motion of Drs. Carstens-Boys were ordered paid. Carried unanimously.
16. *Appointment to Medico-Legal Committee.*—The President announced the resignation of Dr. F. B. Miner, Flint, from the Medico-Legal Committee, and his appointment of Dr. I. W. Greene of Owosso to fill this vacancy. This appointment was approved, on motion of Drs. Carstens-Boys. Carried unanimously.
17. *Mail Order Practice.*—The alleged mail order practice of a certain physician was reported to the Executive Committee. The full correspondence was read. Discussion. Motion of Drs. Carstens-Reeder that, in accordance with Chapter 9, Section 3, of the By-Laws of the M.S.M.S. this matter be referred to the County Medical Society for information, investigation, and full report and advice on action desired of the State Society. Carried unanimously.
18. *Cancer Committee Publicity.*—A letter of thanks was ordered sent to the Cancer Committee of the M.S.M.S. to the *Detroit News*, and to Mr. A. M. Smith for the excellent articles on Cancer recently published in the *Detroit News*.

19. *Adjournment.*—The Chair thanked all for their attendance and good advice on these many important items, and adjourned the meeting at 11:10 p. m.

MINUTES OF MEETING OF LEGISLATIVE COMMITTEE

Wednesday, March 17, 1936

1. *Roll Call.*—The meeting was called to order by Dr. H. H. Cummings, Chairman, at 7:25 P. M., in the Wayne County Medical Society Building, Detroit. Present were: Dr. Cummings of Ann Arbor, Dr. L. G. Christian of Lansing, Dr. L. J. Gariepy of Detroit. Also present were: Drs. James H. Dempster and S. W. Insley of Detroit, and Executive Secretary Wm. J. Burns. Absent were: Dr. F. B. Burke of Detroit, Dr. Henry Cook of Flint, Dr. H. E. Perry of Newberry, and Dr. C. F. Snapp of Grand Rapids.

2. *Minutes.*—The minutes of the meeting of February 12, 1936, were read and approved.

3. The subcommittees reported on their several activities and the reports were accepted.

4. *Barbituric Acid Bill.*—The Executive Secretary reported on a bill covering barbituric acids, introduced into the Michigan Legislature in 1935.

5. *Advertising Eye Specialists.*—Dr. Burke was not present, so report on action of Wayne County Medical Society Board of Trustees, February 13, 1936, meeting, was postponed until the April meeting of the Legislative Committee.

6. *Afflicted-Crippled Persons' Laws.*—Dr. Gariepy reported on activities of special committee which is studying recodification of these laws.

A report was given, showing that the total amount of sales tax collected from sale of drugs, cosmetics, etc., to June, 1934, was \$1,200,000; the estimate for 1935 is \$1,320,000; the estimate for 1936 is \$1,500,000—which is far short of the amount required for the care of the crippled and afflicted child. Earmarking may be possible under the law, but it is believed no legislature or Governor would lay themselves open to such a precedent. This report was accepted and placed on file.

7. *Relief Medicine.*—Dr. S. W. Insley gave a report on the work of his Sub-committee on Relief Medicine. He stated that it is trying to present findings in relation to the ERA, the afflicted-crippled child laws, the Social Security Act, etc., so that any proposal made by the Sub-committee will fit the entire picture. Discussion brought out the necessity for recodification of the State Welfare laws.

8. *Adjournment.*—The Chair thanked all for their attendance and help, and adjourned the meeting at 10:30 P. M.

MINUTES OF MEETING OF THE PUBLIC RELATIONS COMMITTEE March 18, 1936.

1. *Roll Call.*—The meeting was called to order by Dr. L. Fernald Foster, Chairman, at 3:08 P. M., in the Hotel Olds, Lansing, Michigan. Present were Drs. L. Fernald Foster of Bay City, F. T. Andrews of Kalamazoo, E. I. Carr of Lansing, R. H. Holmes of Muskegon, F. B. Miner of Flint, P. A. Riley of Jackson, A. V. Wenger of Grand Rapids, and A. H. Whittaker of Detroit. Also present were Drs. Grover C. Penberthy, President, Detroit; C. T. Ekelund of Pontiac, Henry Cook of Flint, H. H. Cum-

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mings of Ann Arbor, I. W. Greene of Owosso, T. K. Gruber of Eloise, S. W. Insley of Detroit, F. E. Reeder of Flint, and Executive Secretary Wm. J. Burns. Absent was Dr. J. J. Walch of Escanaba.

2. *Minutes.*—The minutes of February 16 were dispensed with on motion of Drs. Andrews-Carr. Carried.

3. (a) *Report of PRC Members.*—Each member reported on his work with integration of the filter system in his district.

(b) *Criticism of Filter System.*—Dr. Foster reported on adverse criticism of the filter system given by the director of a certain group of hospitals in Michigan. This was fully discussed.

4. (a) *Afflicted-Crippled Child Laws Problems.*—The Executive Secretary reported on the number of commitments during the last four months for afflicted children; on the Resolution of the Crippled Children Commission, made February 20, 1936, restoring Schedules A, B, C, D as of April 1, 1936; on its action of March 9, reiterating revival of these Schedules during April, May, June, 1936, for the purpose of trying out the filter system, the approval of this plan by the State Administrative Board, but its veto by the Governor on March 10. General discussion brought out the fact that any break-down of the filter system was due to inadequate economic investigations, and the undue enthusiasm of professional and amateur social workers in increasing the case load, and not because of any inadequacy of the medical filter. Dr. Cummings reported on the Wayne County cases which had been refused by the medical filter but subsequently were passed by the economic filter and received medical care at State expense. Motion of Dr. Carr, seconded by several, that this situation be reported to the Chairman (Judge McAvinchey) of the Michigan Probate Judges Association Committee, and to the PRC of the Wayne County Medical Society, with the view to correcting faulty economic filters. Carried unanimously. It was further recommended that this information should be passed on to the Governor and the Budget Director of the State. Report was given that the Governor, on March 17, 1936, recommended to the Commission that the hospital rates be cut 12 per cent off Schedules B and D, and that the physicians' compensation be cut 50 per cent off Schedules A and C. Dr. Cook stated that some decision must be made by the profession; it is important that the State cuts down its practice of medicine—this principle is more important than the fees. Full discussion resulted in the matter being referred to the Executive Committee of The Council.

(b) *Meeting with Probate Judges.*—Report was given on excellent joint meeting of the Bay County Medical Society and the probate judges of the northeast portion of Michigan.

(c) *Letters from Probate Judges.*—Chairman Foster presented 35 letters from probate judges, commenting on the work of the filter system in various counties of the State.

(d) *"Urgency" and "Necessity."*—Specifications of "urgency" and "necessity" were discussed by the Committee at length. Motion of Drs. Holmes-Carr that the PRC recommends multiple medical boards so that the majority opinion of the board would decide on the urgency and necessity of the cases presented to it. Carried unanimously.

5. *Brochures Against Socialization of Medicine.*—The Brief prepared at the request of the PRC for the information of physicians in connection with the debates on this subject was presented and read from cover to cover, word for word. Various corrections were made. Motion of Drs. Whittaker-

Andrews that the Brief as offered and corrected be adopted. Carried unanimously.

6. *Adjournment.*—Due to the lateness of the hour, other items on the agenda were deferred to the next meeting, called by Dr. Foster for April 8. The Chairman thanked the members and guests for their attendance and help, and adjourned the meeting at 6:35 P. M.

PRC CHAIRMEN OF THE COUNTY SOCIETIES

Dis- trict	County Medical Society	PRC Chairman
1 16	Wayne Wayne	Dr. F. W. Stafford, 1111 Griswold, Detroit
2	Hillsdale	Dr. B. F. Green, Hillsdale
2	Ingham	Dr. L. M. Snyder, City Nat'l Bldg., Lansing
2	Jackson	Dr. J. E. Ludwick, 407 Carter Block, Jackson
2	Eaton	Dr. H. A. Moyer, Charlotte
7	Huron-Sanilac	Dr. C. B. Morden, Bad Axe
7	Lapeer	Dr. Clair Bishop, Almont
7	St. Clair	Dr. D. W. Patterson Port Huron
3	Branch	Dr. H. R. Weidner, Coldwater
3	Calhoun	Dr. R. H. Fraser, Security Bank Bldg., Battle Creek
3	St. Joseph	(Not appointed)
14	Livingston	Dr. H. L. Sigler, Howell
14	Lenawee	Dr. O. Whitney, Adrian
14	Monroe	Dr. H. W. Landon, Monroe
14	Washtenaw	Dr. J. S. DeTar, Milan
4	Kalamazoo-Allegan- Van Buren	Dr. W. C. Huyser, 427 S. Burdick, Kalamazoo
4	Berrien	Dr. E. J. Witt, St. Joseph
4	Cass	Dr. L. S. Loupee, Dowagiac
5	Barry	Dr. E. T. Morris, Nashville
5	Ionia-Montcalm	Dr. H. M. Maynard, Ionia
5	Kent	Dr. A. B. Smith, Metz Bldg., Grand Rapids
5	Ottawa	Dr. J. G. Huizenga, Holland
13	Alpena-Alcona	Dr. F. J. O'Donnell, Alpena
13	Northern Michigan (Antrim-Charlevoix-Cheboygan-Emmet-Presque Isle)	Dr. Robert Armstrong, Charlevoix
8	Gratiot-Iasabella- Clare	Dr. C. F. Dubois, Alma
8	Midland	Dr. Joseph H. Sherk, Midland
8	Saginaw	Dr. R. S. Ryan, 623 S. Park St., Saginaw
8	Tuscola	Dr. R. R. Howlett, Caro
9	Grand Traverse- Leelanau-Benzie	Dr. L. R. Way, Traverse City
9	Manistee	Dr. E. A. Oakes, Manistee
9	Wexford-Kalkaska- Missaukee	Dr. L. E. Showalter, Cadillac
10	Bay-Arenac-Iosco- Gladwin	Dr. R. C. Perkins, Davidson Bldg., Bay City
10	O. M. C. O. R. O.	Dr. C. Keyport, Grayling
6	Clinton	Dr. Dean W. Hart, St. Johns
6	Genesee	Dr. F. B. Miner, 400 Sherman Bldg., Flint
15	Shiawassee	Dr. A. L. Arnold, Owosso
15	Macomb	Dr. W. J. Kane, Mt. Clemens
15	Oakland	Dr. C. T. Ekelund, Pontiac
11	Mason	Dr. L. G. Switzer, Ludington
11	Mecosta-Osceola	Dr. G. Grieve, Big Rapids
11	Muskegon	Dr. A. F. Harrington, Peoples Bank Bldg., Muskegon
11	Oceana	Dr. V. Jensen, Shelby
11	Newaygo	Dr. W. H. Barnum, Fremont
12	Delta	Dr. A. S. Kitchen, Escanaba
12	Marquette-Alger	Dr. J. D. Crane, Ishpeming
12	Schoolcraft	Dr. A. G. Shaw, Manistique
12	Luce	Dr. E. H. Campbell, Newberry
12	Chippewa-Mackinac	Dr. S. H. Vegors, Sault Ste. Marie
17	Menominee	Dr. W. S. Jones, Menominee
17	Dickinson-Iron	Dr. E. M. Libby, Iron River
17	Gogebic	Dr. A. J. O'Brien, Ironwood
17	Ontonagon	Dr. C. Whiteshield, Trout Creek
17	Houghton-Baraga- Keweenaw	Dr. H. M. Joy, Calumet

COUNTY SOCIETIES

HURON-SANILAC

The following officers were elected for the coming year: President, W. J. Herrington, M.D., Bad Axe; vice president, F. O. Kirker, M.D., Snover; secretary-treasurer, C. W. Oakes, M.D., Harbor Beach.

INGHAM COUNTY

Annual Clinic

The Annual Clinic of the Ingham County Medical Society will be held in the Olds Hotel, Lansing, on Thursday, April 23, 1936.

The scientific program will begin at 1:30 P. M. Following are the guest speakers and their subjects.

1. Louis G. Herrmann, M.D., University of Cincinnati, Cincinnati, Ohio—"New Methods of Treatment of Endarteritis and other Vascular Diseases of the Extremities."
2. James G. Carr, M.D., Northwestern University, Chicago, Illinois—"Prognosis in Heart Disease."
3. Loyal Davis, M.D., Northwestern University, Chicago, Illinois—"Treatment of Wounds Involving the Peripheral Nerves."
4. Russell L. Haden, M.D., Cleveland Clinic, Cleveland, Ohio—"Blood Dyscrasias."

A social hour will be held at 5:00 P. M. in the Lansing City Club in the Olds Hotel. Dinner will be served at 6:30 P. M.

Clay R. Murray, M.D., Columbia University, New York, will give the address of the evening: "Ambulatory Treatment of Fractures."

All members of the Michigan State Medical Society are cordially invited to attend this interesting clinic, as guests of the Ingham County Medical Society. No registration fee.

NORTHERN MICHIGAN

The regular meeting of the Northern Michigan Medical Society was held at the Perry Hotel, Petoskey, February 13, 1936. Due to the stormy weather, the attendance was very small and so the president dispensed with the regular business and a round table discussion of various topics was held. Dr. Armstrong gave a very interesting account of the experiences of the fishermen and coast guardsmen in their attempts to save the lives of the various men involved. Dr. McMillan also told of his treatment of the coast guardsmen involved in the rescue. Drs. Van Leuven and Mast of Petoskey were appointed on the Program Committee for March.

The March meeting of the society was held at the Perry Hotel, Petoskey, on the twelfth. The meeting was called to order by President Engle. Correspondence was read and reports of committees were heard. Dr. Van Leuven and Dr. Mast then presented two cases for discussion and comment: Post-influenza encephalitis and Henoch's purpura. An interesting hour was spent in the discussion of these cases. Dr. Mayne was appointed on the Program Committee for April.

ERVIN J. BRENNER, M.D., *Secretary*.

WASHTENAW COUNTY

A regular meeting of the Washtenaw County Medical Society was convened at the Michigan Union at 6 P. M., Tuesday, February 11, 1936. Dr. H. H. Cummings presided in the absence of Presi-

dent Miller and Vice President Bell. Dinner was served to sixty-seven members. Eighty-seven attended the program which followed.

The minutes of the meeting of January 14 were approved as printed on the program.

Dr. W. J. Wright of the Board of Censors reported the applications of the following qualified physicians: A. A. Palmer, Chelsea; Sherwood B. Winslow, University Hospital; E. Thurston Thieme, University Hospital; H. B. Rothbart, University Hospital; Louise Schnute, University Hospital.

The report of the Board of Censors was accepted and the applicants elected to membership. Dr. John Wessinger, chairman of a Committee on Resolutions, presented a resolution concerning the late Dr. Louis Rominger. This resolution was adopted unanimously. Dr. John S. DeTar, chairman of Public Relations Committee, gave a progress report and urged members to discuss the problems of the care of indigent in the county among themselves and with members of the committee before the next meeting of the Society.

Dr. Cummings presented a suitably engraved rosewood gavel to Dr. O. R. Yoder as a token of appreciation of his administration as president of the Society during the year 1935 and of admiration of his qualities as physician and fellow-man.

A group of excellent papers on Pneumonia were read. Dr. Mark Marshall acted as chairman of the symposium. Dr. A. C. Curtis discussed "Newer Developments in Treatment." Dr. George Muehlig presented "Complications of Pneumonia" and Dr. Marshall concluded with "Prognosis." Dr. D. M. Cowie and Dr. Raphael Isaacs discussed the papers.

JOHN V. FOPEANO, *Secretary*.

THE WASHTENAW COUNTY MEDICAL FILTER SYSTEM

1. In accordance with an agreement made by the Michigan State Medical Society with the State Probate Judges' Association, the Crippled Children Commission, and the Michigan Hospital Association, the Washtenaw County Medical Society hereby offers the Judge of Probate the assistance of the profession through the medium of a medical examining board, in determining the need for hospitalization of indigent afflicted and crippled children under State Acts 274 and 236, as amended.

2. This examining group, to be known as the Medical Filter Board, shall consist of three or more physicians chosen from members of the Washtenaw County Medical Society who have indicated a willingness to serve. For the present, the term of service on the Board shall be six weeks, the terms being so arranged that one new examiner shall start every two weeks. The first Board, then, shall have one physician serving two weeks, one serving four weeks, and one the full six weeks' period. Members shall be appointed to the Board by the President, upon recommendation of the Public Relations Committee, all appointments to be approved by the Society.

3. There shall also be a Consulting Board, consisting of physicians, members of the Washtenaw County Medical Society, who limit their practices to the specialties, and who indicate a willingness to serve on such a Board. Opinion as to the necessity for hospitalization under the statutes may be asked of one or more members of this Consulting Board by the Medical Filter Board, in the manner herein-after described.

4. The activities of the Medical Filter Board and the Consulting Board shall be directed toward determining the need for hospitalization and for specialized medical treatment, their sole aim being to

render medical opinion for the guidance of the Judge of Probate.

5. Care of afflicted and crippled children under Acts 274 and 236 is restricted to the time of hospitalization. The hospitals in which these cases may be cared for are determined by the Crippled Children Commission.

Plan of Operation of the Medical Filter System

1. The Medical Filter Board shall meet once weekly, at 9 A. M. of each Friday morning, or at some other prearranged time, in the examining rooms designated by the Probate Court for the purpose of examining cases referred for examination by the Court. All physicians, and all other agencies interested in securing hospitalization of cases under the above Acts, must first refer said cases to the Probate Court, as examinations by the Board shall be made only on order by the Court. The Court will refer for examination only those cases which have passed the Economic Filter set up by the Court.

2. Patients shall bring to the examining rooms, the standard court form, No. 9532, filled out in duplicate, indicating provisional diagnosis and reason for hospitalization. After examination, the patient shall be returned to the Probate Court, along with recommendations of the Board. The original copy shall be sent to the Court, and the duplicate kept in the files of the Medical Filter Board.

3. If, in the opinion of the Board, additional consultation is required before hospitalization, the patient shall be referred to a specialist who is a member of the Consulting Board. If there are several consultants in one specialty, cases shall be referred to them in rotation, unless circumstances prevent. The patient shall take the standard court form, No. 9532, to the specialist, after the opinion of the Medical Filter Board has been added thereto. After examination, the specialist shall add his opinion for the guidance of the Judge of Probate, and return the patient to the Court with recommendations.

4. The Judge of Probate will then inform the physician who first referred the case whether or not hospitalization has been ordered by the Court. It is agreed between the Judge of Probate and the Washtenaw County Medical Society that each case is to be returned to the original referring physician, for him to arrange for hospitalization.

5. In emergency cases, hospitalized before authorization by the Court, the Court assumes no responsibility for the payment of hospital or physicians' bills until economic and medical investigation has been made. The physician and hospital caring for an emergency case, therefore, do so with this understanding. The Probate Court should be notified by telephone of every emergency hospital admission as soon as possible, and the standard Probate Court Physicians' Certificate forwarded to the Court. Whenever possible, case records, x-rays of fracture cases, and pathological reports on tissues excised in emergency operations, should be submitted for the assistance of the Medical Filter Board.

6. The policies of the Medical Filter Board shall be determined by the Washtenaw County Medical Society. The plan of operation may be amended at any regular meeting by a majority vote therefor, provided that such amendment has been read in open session at the preceding regular meeting and a copy of the same has been sent to each member by the Secretary, ten days in advance of the meeting at which final action is to be taken.

AMERICAN ASSOCIATION ON MENTAL DEFICIENCY MEETS

The American Association on Mental Deficiency composed of some 500 educators, psychologists, sociologists, and psychiatrists is holding its sixtieth annual meeting at the Hotel Jefferson, St. Louis, Mo., on May 1, 2, 3 and 4. The Friday sessions will be devoted to General and Sociological aspects of mental deficiency; the Saturday sessions to Psychological and Educational topics with special stress on Educational Disabilities. The Monday sessions will be given over to Research Activities, Medical Aspects and Administrative Problems in mental deficiency. Everyone interested in the mentally defective or retarded child is cordially invited to attend these sessions. The complete program may be obtained from the Secretary, Dr. Groves B. Smith, Godfrey, Illinois.

MEDICAL PERIODICAL LITERATURE

The manner of presentation of medical thought is a subject that interests the editors of medical periodicals at all times. It ought equally to interest those who prepare articles for periodicals. Writing for publication is not easy, nor, in most cases, does it come naturally. Even if it is a gift, that gift can be cultivated. The position of an editor, like that of Gilbert and Sullivan's policeman, "is not a happy one," at least not always! He feels impelled to make certain changes in a manuscript, the reasons for which are not understood by the writers, and so may give offense. While it is true that editors exist for the purpose of editing, their task could be rendered easier by attention to certain points on the part of the contributor. Much might be said on this subject, but we wish at the moment to direct attention to certain phases of it only.

The first desideratum in a medical paper is that the author should have something to say that is worth while. His paper should embody some advance in knowledge, some *new* discovery, some clinical experience, some unusual case. A paper of the "arm-chair" variety, while it may have value under certain circumstances, rarely deserves to be embalmed in the pages of a medical journal.

Titles should not be too lengthy. In the Middle Ages, and even later, titles frequently amounted to an epitome of the book. In the cases of medical monographs one wonders sometimes whether it was necessary to append the article. A summary at the end will meet the requirements. A title, though brief, may yet convey clearly the subject under discussion. Remember, the title is to be indexed. If it is not properly expressive the paper concerned might as well be consigned to oblivion.

Further, we deprecate the practice of writing in a "telegraphic" style. This may be all right in a hospital case report, but is not all right in a medical periodical that has any pretensions. Leaving out the definite article is the most flagrant example of this fault. Do not take the daily newspapers as your model.

We ask our prospective contributors to think on these things. And remember, oh remember, to double space your articles.—*Canadian Medical Association Journal*.

WOMAN'S AUXILIARY

WOMAN'S AUXILIARY

MRS. A. M. GIDDINGS, President, 22 Riverview Ave.,
Battle Creek

MRS. KENNETH LOWE, Secretary-Treasurer, 107 Elizabeth St., Battle Creek

MRS. L. C. HARVIE, Press Chairman, 341 Brockway Place, Saginaw



MRS. K. H. LOWE
Secretary-Treasurer Woman's Auxiliary
of the Michigan State Medical Society

Dear County Presidents and Auxiliary Members:

The mid-year meeting of our executive board was held at the Hotel Statler, in Detroit, Saturday morning, February 15. Six members of the board were present, and two county presidents, Mrs. Wm. Dugan, of Battle Creek, and Mrs. Frank Hartman, of Detroit.

There was quite a full discussion of the financial condition of our organization, and the revision chairman, Mrs. J. H. Dempster, was instructed to draw up some changes in the by-laws; these to be presented to the general assembly at the annual convention in September. We are still operating on the reduced income instituted as a "depression" measure, and no immediate change in this regard is anticipated.

Our organization chairman, Mrs. J. A. McLandress, submitted an encouraging report of one new auxiliary unit already formed, and others in the course of organization. There has been much activity in the way of correspondence in this department during the year.

Mrs. L. O. Geib gave a report of the recent survey conducted by the Public Relations department to ascertain the strength of auxiliary influence in lay organizations. While the response from all units was not complete, the information received showed that our members are very active in a wide range of civic and social enterprises. In this fact lies our greatest strength, i.e., the formation of public opinion, and the correction of false impressions concerning the aims of public health service, and the problems and ideals of the medical profession.

There has been better coöperation this year than before in the use of our auxiliary pages of THE

JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY, but Mrs. L. C. Harvie, press chairman, feels that still the whole story is not being told. She again urges that all items of interest concerning meetings, activities, and projects of the various county units be sent in promptly.

After routine reports the meeting adjourned and the members joined the Wayne County Auxiliary in the subscription luncheon, at which the speaker for the afternoon, Dr. Lawrence A. Pomeroy, of Cleveland, was a guest.

Our next important activity is the national convention in Kansas City, Mo., May 11-15. It is to be hoped that Michigan will have a full representation at that meeting.

Sincerely,
(Mrs. A. M.) LEAH M. GIDDINGS

County News

Calhoun County.—The Werstein Memorial Nurses' Home, at Leila Hospital, was the scene Tuesday evening, March 3, of one of the most delightful social affairs of the season, when wives of the doctors of Calhoun County were guests at a 6:30 dinner given by Leila Hospital.

In stressing "service" as the keynote of his address, the Rev. Carleton Brooks Miller, of the First Congregational Church, who was the special speaker and guest of the evening, traced the early struggle of Leila Hospital, what it had accomplished during its few years of existence, and brought out just what the hospital now means to the community. The Rev. Mr. Miller urged the women to continue their service in the worthy work which they are doing for both hospitals in the city.

In closing, he said that, through the auxiliary to the Calhoun County Medical society, the Sisters of Mercy of Leila Hospital were inviting the women of Calhoun County at large, regardless of creed or affiliation, to become associated for the main purpose of service and thus form an auxiliary to Leila Hospital.

Mr. Miller was introduced by Mrs. Wm. M. Dugan, president of the Calhoun County auxiliary, and after his talk, Mrs. M. Phillipson, of Dowagiac, who was also a special guest of the evening, was introduced by Mrs. Dugan. Mrs. Phillipson gave interesting data concerning the work being accomplished by the hospital auxiliary in Dowagiac, stressing that with a membership of 225 the auxiliary had already raised \$20,000 for its hospital and was developing a small private hospital into one of the well equipped hospitals of the county.

Mrs. A. M. Giddings, state president of the auxiliary to the Medical Society, spoke, announcing that this district may be the first in the country in the distribution of *Hygeia*. The magazine has been placed in all rural and community schools in the county.

Mrs. H. M. Lowe, chairman of maternity kits, announced that during the past year more than 500 maternity kits had been made and distributed by the auxiliary.

A program of musical numbers was given by the nurses, which was greatly enjoyed by the members.

LOIS M. UPSON,
Press Chairman.

* * *

Kalamazoo County.—Mrs. S. W. Robinson, Benjamin Avenue, entertained members of the Women's Auxiliary, Academy of Medicine, at a coöperative dinner Tuesday evening in the White Cross House, Bronson Hospital. Covers were laid for twenty-seven and potted plants were used decoratively.

After dinner, Mrs. Robinson took members on a

CORRESPONDENCE

tour of the house and explained the use being made of it. The later evening was spent informally. Mrs. Robinson was assisted by Mrs. Leo. Westcott, Mrs. W. O. Jennings, and Mrs. W. D. Irwin.

WILMA G. DOYLE,
Press Chairman.

* * *

Saginaw County.—The "Bring-Your-Husband Dinner," held early in February, took the place of the regular monthly meeting of the Auxiliary to the Saginaw County Medical Society.

However, members of this unit have been active during the month in spreading the health gospel. At a meeting of one of the women's clubs, a paper was given by an auxiliary member on "The Wisdom of the Body," and members of the Medical Auxiliary, who are also members of this club, brought interesting articles for exhibition, among which were specimens of various natures, x-ray films and colored plates in a lighted cabinet. Much interest was shown by the laity. Also exhibited were pamphlets put out by the A. M. A., on "Patent Medicines," et cetera.

DELTA A. HARVIE,
Press Chairman.

* * *

Wayne County.—Three outstanding events have been sponsored recently by the Woman's Auxiliary to the Wayne County Medical Society. On January 10 at the Statler Hotel, Dr. Samuel Gordon, secretary of the Council on Dental Therapeutics of the American Dental Association, spoke under the direction of the Public Relations Committee of which Mrs. Frederick T. Munson is chairman. Dr. Gordon discussed "Paying through the Teeth," and this was an open meeting since it is the policy of the Auxiliary to contact the public with three lectures each year on timely subjects. A subscription luncheon honoring the speaker preceded the talk, at which time officers of the newly organized Dental Auxiliary were also introduced.

The second of the series with Dr. L. A. Pomeroy of Cleveland, member of the American Society for the Control of Cancer, speaker, was held February 15. A group from the Executive Board of the State Auxiliary with the speaker were honor guests at a similar luncheon preceding the meeting. At each session a *Hygeia* exhibit was displayed.

The third annual Arts and Crafts Exhibit was held March 8-13 inclusive under the direction of Mrs. James H. Dempster, Art Chairman, with Mrs. Milton Vokes, co-chairman. Any member of the Wayne County Medical Society or member of his family was urged to exhibit his handicraft and the results as displayed were most gratifying. On Sunday from three to six, a tea was given with Dr. Wilfrid Taylor Dempster of the University of Michigan faculty giving an illustrated talk on "The Development of Medical Illustrating" in which he traced the crude illustrations of the early ages down to the well developed technic of the present day. Mrs. Jack Agins was in charge of the music furnished by a string ensemble from the Doctors' Symphony Orchestra and tea and a social hour followed.

Friday, the regular meeting day of the Auxiliary as well as the final day of the exhibit, featured a reception to between sixty and seventy new members at which time Paul Honore, well known Detroit artist, discussed "Laity Looks at Art." Music and tea concluded the afternoon's program.

The Auxiliary takes pride in announcing that they have put a subscription to *Hygeia* in more than 335 schools in the metropolitan area.

WINOGENE E. DARLING,
Press Chairman.

CORRESPONDENCE

NOT SO KAKAPHONIOUS

To the Editor of the
Michigan State Medical Society:

In the current medical literature the word "hypophysectomized" is used quite frequently, and is such an awkward word to pronounce that it occurred to me the word "pitsectomized" would be more euphonious and time-saving in writing. What think you?

—Reader.

February 28, 1936.

"CALIFORNIA DOINGS"

Editor Dempster:

Agreeable to the promise made to you in November to send you a report from time to time I am embracing this, my first opportunity to send you a few comments on our Medical Association activities.

I have just completed visiting every county unit, attending a regular meeting of each county society. This entailed train and auto travel of some 23,000 miles in a period of twelve months. These visits were made for the purpose of becoming oriented, ascertaining local conditions and problems and presenting to our members the policies and objectives of the State Association. The values of these visits is becoming apparent in awakened interest on the part of county societies, individual members and local committees. The year 1935 closed with a net gain of 333 members, bringing our total to 5,402 members. This number represents 83.3 per cent of the licensed physicians and surgeons in the state eligible for membership. We are well on our way toward attaining our 1936 goal of 6,000 members. It has been a delightful experience to meet these splendid men and to survey their environments. I could narrate at length most interesting facts that would give insight to these medical men and their ideals and standards. Space will not permit, hence for this time I quote a paragraph from a letter of Dr. Richard R. Smith of Grand Rapids following a recent visit during which he took the time to peer behind our scenes:

"After leaving San Francisco Mrs. Smith and I went to Southern California, gaining impressions of the country in general and medical conditions in particular. Incidentally, we met a great many old friends and had a thoroughly enjoyable and profitable time. I came home with renewed and fresh impressions of the excellence of the profession out there. Certainly your standards are as high as any in the country and far better than in most parts of the country, and I think all of you there can be well satisfied with what you are doing. There is a certain newness and freshness, a tendency to break away from restricting traditions, and an enterprising spirit which is very apparent to one who visits California after a period of years."

I wish that it were possible to describe in detail all of our Association activities. That also is impossible on account of space. I must be content to simply record a few of the outstanding features.

1. Secured a Court of Appeals sustaining order granting an injunction restraining county supervisors from admitting to county hospitals persons who are not indigent.

2. Secured, on appeal, ruling from a higher court that the practice of medicine by corporations is illegal.

JOUR. M.S.M.S.

OBITUARY

3. Initiated action and presented arguments and briefs to declare that the administering of an anesthetic constituted the practice of medicine and that none but a licensed physician and surgeon can administer an anesthetic. We are awaiting the court's decision. If this principle could be universally established, physicians would be attracted to this special field, for lay and nurse competition would be removed.

4. Assumed responsibility and direction of a Hall of Medical Science at the San Diego Exposition that opened February 12 and closes September 9. This building with its 22,000 square feet of exhibit space contains state and national exhibits on scientific medical subjects designed to impart to the several million exposition visitors dependable information upon the problems of public health and private health.

Incidentally, our Association has assumed direction and administration of the Hall of Medical Science that will be built for the San Francisco Exposition two years hence.

5. Initiated a state-wide program of post-graduate conferences for our members.

6. Protection against malpractice suits has become a serious problem. There has been a 300 per cent increase in the number of suits filed. Insurance Companies' policy premiums are 100 to 150 per cent higher than in Michigan. An insurance broker has been retained and plans are being made to rectify the situation. These will be reported on at our Annual Meeting in May.

7. Initiated a program of Public Health Institutes to be conducted throughout the State for the purpose of public education.

8. The last legislature passed a law authorizing non-profit corporations to sell hospital insurance. The Association has enunciated the principle and adopted the policy that the examinations made in the x-ray laboratories as well as those of the pathological and physiotherapy departments were not a part of hospital care or service. It is further held that these services constitute the practice of medicine and therefore technicians and hospitals cannot provide these services under a hospital insurance policy, for to do so would constitute illegal practice by the technician and corporate practice on the part of insurance companies or hospitals. It is held that in the x-ray department highly dangerous radiant energy is employed and in the pathological department human tissue is penetrated, therefore these procedures should be under the immediate supervision of a licensed graduate in medicine.

It is desirable that many eastern hospitals and medical organizations take a similar position and end illegal practices and inroads into the medical field by lay technicians and hospitals. That is a form of state medicine that is expanding and condoned, to professional injury in many eastern localities and metropolitan centers. California's profession has clarified its policies in the position it holds in regard to this vital question.

9. Our Annual Meeting will be held in Del Coronado, just across the Bay from San Diego, the week of May 24, 1936. The headquarters hotel, accommodating 1,000 members, was all reserved by members on December 1st. San Diego affords ample facilities for the some 2,500 registrations that will be recorded. More about the Annual Meeting and some of its unique features, if you wish, when the minutes of that Session are recorded.

10. Our four medical colleges afford splendid opportunity for our members to remain abreast of scientific progress. Special lectures and courses are frequently given. Faculty members gladly respond to invitations to appear on county and district programs, thereby presenting meetings that are of exceptional value and interest.

In closing, I must not fail to comment upon our weather. Though we had an "unusual" amount of rain, the rainy season is over. Its discomforts were trivial in comparison to your heavy fall of snow and zero temperatures. Days now are bright and sunny, verdant hills and trees in blossom bloom—windows are open—it's balmy spring and delightful.

With cordial greetings to all the members in Michigan, I am

Sincerely,

F. C. WARNSHUIS.

OBITUARY

Dr. Edwin M. Chauncey

Dr. Edwin M. Chauncey of Albion died February 20, 1936, at the Sheldon Memorial Hospital in Albion. Dr. Chauncey was born December 8, 1873, at Girard, Branch County, Michigan. He was a graduate of the University of Michigan Medical School. After graduation, he practiced at Girard where his father was also a physician, later coming to Albion. The cause of his death was pneumonia.

He was very active in civic affairs of his city. For many years he served on the Albion school board from 1926 to 1929. During the World War he was a lieutenant in the medical corps. Dr. Chauncey was a member of the Calhoun County Medical Society, the Michigan State and American Medical Associations. He is survived by his widow, Mrs. Myrtle Chauncey, and one son, Richard M. Chauncey of Detroit.

Dr. A. M. Barrett

Dr. Albert Moore Barrett, head of the department of psychiatry and director of the state psychopathic hospital, Ann Arbor, died April 2, 1936, at his home of a heart attack following an automobile accident when returning from Detroit.

Dr. Barrett was born at Austin, Illinois, in 1871. He received his preliminary education at the Iowa State University, where he was graduated A.B. in 1893, and received his M.D. in 1895. He was assistant physician and pathologist of the Independence, Iowa, Hospital for the Insane in 1897-98, holding a similar position, 1898-1901, in the Hospital for the Insane at Worcester, Massachusetts. He became assistant neuropathologist at Harvard Medical School in 1906. Prior to his appointment, he pursued post-graduate work at Heidelberg University. Dr. Barrett came to Ann Arbor in 1906 and had occupied the position as professor of psychiatry at the University of Michigan Medical School, up to the time of his death. Dr. Barrett was a member of the American Medical Association, the American Psychiatric Association, of which he was president in 1922, and the American Neurological Association. He was the author of numerous papers on psychiatry. He is survived by his son, Edward B. Barrett, who graduated from the Law School, and by three sisters and a brother living on the Pacific Coast.

MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner

LANSING, MICHIGAN

Approved Laboratories

The Michigan Department of Health is required by statute to check the accuracy and dependability of laboratories making examinations in the control of communicable diseases. The following laborato-

ries have complied with the regulations and have been approved for the serodiagnosis of syphilis and microscopy in the laboratory diagnosis of diphtheria, tuberculosis, and gonococccic infections, in the State of Michigan:

Reg. No.	Name of Laboratory	Location	Director
5	St. Joseph's Mercy Hospital.....	Ann Arbor.....	S. C. Howard, M.D.
6	Univ. of Michigan Hospital.....	Ann Arbor.....	R. L. Kahn, Sc.D.
175	Chemical & Bact. Laboratory.....	Battle Creek.....	Wm. Rothberg
11	L. Y. Post Montgomery Hosp.....	Battle Creek.....	A. A. Humphrey, M.D.
13	City Health Department.....	Bay City.....	L. B. Harrison
14	Mercy Hospital.....	Bay City.....	W. G. Gamble, M.D.
191	Gamble Clinical.....	Bay City.....	W. G. Gamble, M.D.
170	Mercy Hospital.....	Benton Harbor.....	H. L. Galehouse
166	Dearborn Clinical.....	Dearborn.....	C. A. Christensen, M.D., H.O.
183	Ford Mtr. Co. Medical.....	Dearborn.....	B. D. Campbell, M.D.
195	C. D. Brooks, M.D.....	Detroit.....	C. D. Brooks, M.D.
100	H. L. Clark Clinical.....	Detroit.....	H. L. Clark, M.D.
140	Chas. Godwin Jennings Hospital.....	Detroit.....	S. W. Wallace, M.D.
184	Chenik Hospital.....	Detroit.....	O. A. Brines, M.D.
18	Children's Hospital.....	Detroit.....	M. K. Patterson, M.D.
1	Department of Health.....	Detroit.....	J. A. Kasper, M.D.
164	Detroit Endo. & Clinical.....	Detroit.....	I. J. Zimmerman, M.D.
17	Delray Gen'l Hospital.....	Detroit.....	H. E. Cope, M.D.
185	Detroit Polyclinic.....	Detroit.....	R. G. Gillespie
189	East Side Gen'l Hospital.....	Detroit.....	O. A. Brines, M.D.
113	Evan. Deaconess Hospital.....	Detroit.....	A. B. Pranian
136	Florence Crittenton Hospital.....	Detroit.....	A. L. Amolsch, M.D.
21	Grace Hospital.....	Detroit.....	C. I. Owen, M.D.
73	Harper Hospital.....	Detroit.....	P. F. Morse, M.D.
188	Jefferson Clinic.....	Detroit.....	O. A. Brines, M.D.
176	H. Havers.....	Detroit.....	H. Havers, M.D.
22	Henry Ford Hospital.....	Detroit.....	F. W. Hartman, M. D.
142	Medical Clinical.....	Detroit.....	N. E. Aronstam, M.D.
23	H. A. Meinke.....	Detroit.....	H. A. Meinke, M.D.
24	National Pathological.....	Detroit.....	F. J. Eakins, M.D.
157	Nottingham Clinical.....	Detroit.....	Harriet B. Ainslie
25	Owen Clinical.....	Detroit.....	R. G. Owen, M.D.
26	Physicians' Service.....	Detroit.....	M. S. Tarpinian
27	Providence Hospital.....	Detroit.....	J. E. Davis, M.D.
28	Receiving Hospital.....	Detroit.....	O. A. Brines, M.D.
31	St. Joseph's Mercy Hosp.....	Detroit.....	D. G. Christopoulos, M.D.
32	St. Mary's Hospital.....	Detroit.....	J. E. Davis, M.D.
76	R. L. Schaefer.....	Detroit.....	R. L. Schaefer, M.D.
181	Frank Stafford.....	Detroit.....	Frank Stafford, M.D.
117	Woman's Hospital.....	Detroit.....	D. C. Beaver, M.D.
97	Seymour Hospital.....	Eloise.....	S. E. Gould, M.D.
36	Hurley Hospital.....	Flint.....	G. R. Backus, M.D.
112	Women's Hospital.....	Flint.....	G. R. Backus, M.D.
190	Gamble Clinical.....	Grand Rapids.....	W. G. Gamble, M.D.
167	Allergic & Clinical.....	Grand Rapids.....	H. G. Swenson, M.D.
38	Blodgett Memorial Hospital.....	Grand Rapids.....	W. M. German, M.D.
40	Brotherhood Private.....	Grand Rapids.....	J. S. Brotherhood, M.D.
37	Butterworth Hospital.....	Grand Rapids.....	W. M. Stevenson, M.D.
41	St. Mary's Clinical.....	Grand Rapids.....	G. L. Bond, M.D.
42	Western Michigan Clinical.....	Grand Rapids.....	T. L. Hills, Ph.D.
2	Western Mich. Div. Mich. Dept. Health.....	Grand Rapids.....	Pearl Kendrick, Sc.D.
192	A. R. Hufford.....	Grand Rapids.....	A. R. Hufford, M.D.
116	Cottage Hospital.....	Grosse Pointe.....	P. F. Morse, M.D.
94	Department of Health.....	Hamtramck.....	P. A. Klebba, M.D.
44	General Hospital.....	Highland Park.....	P. F. Morse, M.D.
3	Branch Lab., Mich. Dept. Health.....	Houghton.....	Ora M. Mills
193	Itzov Clinical.....	Iron Mt.....	Theo. A. Itzov
146	City Health Department.....	Jackson.....	E. J. MacLachlan, D.V.M., H.O.
186	W. A. Foote Mem. Hospital.....	Jackson.....	Ethel Mae Kennedy
91	Bronson Methodist Hospital.....	Kalamazoo.....	H. R. Prentice, M.D.
47	Dept. of Public Health.....	Kalamazoo.....	George White
46	New Borgess Hospital.....	Kalamazoo.....	H. R. Prentice, M.D.
163	Larkum Clinical.....	Lansing.....	N. W. Larkum, Ph.D.
0	Mich. Dept. of Health.....	Lansing.....	C. C. Young, D.P.H.
69	St. Lawrence Hospital.....	Lansing.....	C. D. Keim, M.D.
134	St. Lukes Hospital.....	Marquette.....	W. B. Lunn, M.D.
141	Diagnostic Clinic.....	Monroe.....	C. J. Golinvaux, M.D.
104	Mercy Hospital.....	Monroe.....	R. W. McGeoch, M.D.
187	Monroe Hospital.....	Monroe.....	C. K. Neher, M.D.
51	Macomb County.....	Mt. Clemens.....	S. J. Peltier
50	St. Joseph Hospital.....	Mt. Clemens.....	Isabella Kennedy
54	Mercy Hospital.....	Muskegon.....	A. A. Spoor, M.D.
118	Pawating Hospital.....	Niles.....	Alice Gracy, M.D.
111	Wm. H. Maybury San.....	Northville.....	C. E. Woodruff, M.D.
56	Dept. Health & Gen'l Hosp.....	Pontiac.....	C. A. Neafie, M.D.
57	Oakland County Health Dept.....	Pontiac.....	J. D. Monroe, M.D., H.O.
128	Pontiac State Hospital.....	Pontiac.....	R. E. Olsen, M.D.
58	St. Clair County.....	Pt. Huron.....	Lucile Roach
83	Dept. of Health.....	Roseville.....	F. T. Zieske, M.D.
59	Central Laboratory.....	Saginaw.....	O. W. Lohr, M.D.
168	Hart Clinic.....	St. Johns.....	T. Y. Ho, M.D.
108	Clinton Mem. Hospital.....	St. Johns.....	T. Y. Ho, M.D.
154	Chippewa Co. War Mem. Hosp.....	Sault Ste. Marie.....	C. Willison, M.D.
182	Sturgis Mem. Hospital.....	Sturgis.....	D. M. Kane, M.D.
62	Traverse City State Hospital.....	Traverse City.....	R. P. Sheets, M.D.
63	Wyandotte Gen'l Hospital.....	Wyandotte.....	C. M. Crum

MICHIGAN'S DEPARTMENT OF HEALTH

No. Reg.	Name of Laboratory	Location	Director
4	City Laboratory.....	Ann Arbor.....	J. A. Wessinger, M.D., H.O.
129	Dept. Ped. & Inf. Dis. Univ. Mich.....	Ann Arbor.....	D. M. Cowie, M.D.
127	University Health Service.....	Ann Arbor.....	W. E. Forsythe, M.D.
10	City Health Department.....	Battle Creek.....	Henry Kowalk
147	Hess Clinical.....	Bay City.....	C. L. Hess, M.D.
137	Jones Clinic.....	Bay City.....	L. B. Harrison
143	Eye, Ear, Nose & Thrt. Hosp.....	Detroit.....	W. F. Hamilton, M.D.
102	North End Clinic.....	Detroit.....	Ruth McKinney, Ph.D.
34	St. Francis Hospital.....	Escanaba.....	H. T. Defnet, M.D., H.O.
35	Board of Health.....	Flint.....	Jean Bradford
124	Michigan State Sanatorium.....	Howell.....	Mary Joy
43	Grand View Hospital.....	Ironwood.....	W. H. Wacek, M.D.
45	Mercy Hospital.....	Jackson.....	Virginia Lauzun
48	State Hospital.....	Kalamazoo.....	R. A. Morter, M.D.
121	Edw. Sparrow Hospital.....	Lansing.....	N. W. Larkum, Ph.D.
125	Mich. Home & Tr. School.....	Lapeer.....	R. L. Dixon, M.D.
126	Morgan Hgts. Sanatorium.....	Marquette.....	S. Lojaco, M.D.
53	Hackley Hospital.....	Muskegon.....	E. W. Lange, M.D.
123	Wayne Co. Training School.....	Northville.....	R. H. Haskell, M.D.
55	Olivet College.....	Olivet.....	G. F. Forster, Ph.D.
107	Memorial Hospital.....	Owosso.....	I. W. Greene, M.D.
66	Petoskey Hospital.....	Petoskey.....	D. C. Burns, M.D.
132	St. Joseph Mercy Hospital.....	Pontiac.....	R. E. Olsen, M.D.
150	State Hospital.....	Ypsilanti.....	G. F. Inch, M.D.

The above laboratories have complied with the regulations and have been approved for the microscopy in the laboratory diagnosis of diphtheria, tuberculosis, and gonococcic infections:

A supplementary list of approved laboratories will be published as soon as the records have been completed.

The provisional death rates for 1935 indicate that a new low has been established in tuberculosis. There were 2,045 deaths from this disease reported, as compared with 2,199 in 1934. While it is very difficult to establish rates on account of the fluctuation of the population in the ten-year interim of the Census, the figures given out by the Bureau of the Census for the population of Michigan in 1934 made a rate of 43.2 per 100,000 of population for tuberculosis. The Bureau of the Census has indicated that the same population estimate will be used for 1935, in which case the rate would be only a shade over 40 per 100,000. A number of years ago the objective in tuberculosis control set up by public health workers was to reach a rate of 40 by 1940. It would appear that Michigan has reached that objective four years ahead of time.

Another new low was established in typhoid fever, there being only 34 deaths from this cause, as compared with 65 deaths in 1934, a reduction of nearly one-half. A comparison of this number with 157 deaths in 1925, 353 deaths in 1915, and 636 deaths in 1905 certainly makes a very satisfactory showing.

Diphtheria made a slight increase from thirty-eight deaths recorded in 1934 to fifty-seven in 1935.

The year 1935 was distinctly an epidemic year for measles with 184 deaths reported. It is hoped that this disease will follow its usual course of periodicity and that we will not have another epidemic for at least three years.

One striking item revealed by the 1935 figures is the increase in pneumonia. The year 1933 showed 2,756 deaths from pneumonia (all forms). In 1934 this had risen about 20 per cent to 3,466, and 1935 shows a further rise to 3,805 deaths, an increase of about nine per cent over the 1934 figures. In view of the fact that no widespread epidemic of influenza or reportable upper respiratory infections existed, this sharp increase in pneumonia in the last two years is unexplainable.

Slightly increased rates are shown in epidemic meningitis and in poliomyelitis, but decreased in scarlet fever and whooping cough.

The figures given here are provisional but will probably not undergo significant changes when complete.

Women's Classes

Dr. Shebesta began a new series of women's classes in St. Clair County, February 24, which will continue for eight weeks.

Dr. Stocking is conducting a series of women's classes in Ionia County which will be followed by a series of classes in Washtenaw County beginning March 9.

Child Care Classes

Miss Fox began a series of child care classes in Gogebic County, February 3.

Miss Cooper began a new series of child care classes in Macomb County, February 5.

Miss Clock began a new series of classes in Tuscola County, February 17.

Growth Arrest in Long Bones as Result Of Fractures that Include the Epiphysis

During the seven and one-half years since the opening of the clinics at the University of Chicago, Edward L. Compere, Chicago (*Journal A. M. A.*, Dec. 28, 1935), has seen a group of cases showing deformities that developed as a result of fractures that crossed the epiphyseal cartilage and produced partial or complete growth arrest. Patients treated for fractures of the long bones reached a total of 693, with a total number of 819 fractures; 211, or 34 per cent of the total number of fracture cases studied, were in children 14 years of age or younger at the time the fracture occurred. In this group of children were 290, or 35 per cent of the total number of fractures. In thirty-seven of the 211 cases, the fracture involved the growth cartilage. In this group of thirty-seven patients there were forty-two such fractures, an incidence of 14.4 per cent of all the fractures in children. Of this number, eight were old fractures admitted because of deformity due to arrest of growth. Three of the eight had been compound fractures, so that the growth cartilage was injured by the infection as well as by trauma from the fracture. Of the entire group of forty-two fractures, five were complicated by infection, in all of which growth was arrested. There were thirty-three fractures in which the epiphyseal cartilage was involved but were too recent to show deformity at the time of the first admission. It was possible to secure an adequate roentgen follow-up examination in only nineteen of these. Of the nineteen, eighteen have shown definite growth arrest, an incidence of 95 per cent. The most common fracture to extend across the epiphysal line into the epiphysis was that of the distal end of the humerus, while the bone that was least often injured in this way was the ulna.

GENERAL NEWS AND ANNOUNCEMENTS

The One Hundred Per Cent Club of the Michigan State Medical Society

1. Ingham County Medical Society
2. Luce County Medical Society
3. Muskegon County Medical Society
4. Oceana County Medical Society
5. Ontonagon County Medical Society

The above county medical societies have paid dues in full for each and every member of the County and State Medical Society.

Graduate Course for Physicians

The W. K. Kellogg Foundation has invited the 350 physicians in the counties of Allegan, Barry, Branch, Calhoun, Eaton, Hillsdale, and Van Buren to be its guests for a postgraduate course at Washington University School of Medicine, St. Louis, Mo. The work will begin on Monday, April 13, and continue daily for two weeks. The instruction will be given at the Washington University Medical Center, which includes the School of Medicine, the St. Louis Children's Hospital, the Barnes Hospital, the St. Louis Maternity Hospital, the McMillan Eye, Ear, Nose and Throat Hospital, and the Washington University Clinics.

The course will be a practical one adapted to the every-day needs of the general practitioner. Work will begin each morning at 8:30 and will continue until 5:00 P. M. It is anticipated that 125 physicians will be able to leave their practices this year to take advantage of this opportunity; those unable to attend this year will be invited to next year's course. The group of physicians will leave from Battle Creek by special train on Sunday, April 12. In St. Louis, they will be quartered at the Kings-Way Hotel, where a farewell banquet will be held on Friday, April 24.

Twenty-two members of the faculty will present lectures in pediatrics, internal medicine, surgery, obstetrics, otolaryngology, ophthalmology, stomatology, physical therapy, and radiology.

The work of the W. K. Kellogg Foundation in supplying postgraduate instruction to general practitioners is highly commended. It should stimulate other Foundations to similar endeavor.

* * *

The Filter System was created as of October 30, 1935.

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The names of the presidents and secretaries of all the fifty-three county medical societies are published each month in THE JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY. Find them on page xvi.

* * *

The Medical History of Michigan, in two volumes, may be ordered by mailing a post card to the Michigan State Medical Society, 2020 Olds Tower, Lansing. Price \$2.50 per volume.

* * *

The dramatized radio programs of the A.M.A. are presented Tuesday afternoons at 5:00 o'clock E.S.T. over the N.B.C. network. They are well worth hearing. Tell your patients.

Afflicted Child Commitments: July, 1935—1,959; Aug., 1935—1,981; Sept., 1935—1,503; Oct., 1935—1,378; Nov., 1935—847; Dec., 1935—859; Jan., 1936—1,494 (net 863); Feb., 1936—1,039 (824 to miscellaneous hospitals, 215 to University Hospital).

* * *

In 1928, the Detroit meeting of the Michigan State Medical Society attracted 831 active members.

In 1936, it is estimated that over 2,000 will register. Be there!

* * *

Dr. I. W. Greene of Owosso has been appointed to the Executive Board, Medical Defense Committee of the Michigan State Medical Society, to fill the unexpired term of Dr. F. B. Miner, Flint, resigned.

* * *

The Michigan State Medical Society Annual Meeting will be held at the Book-Cadillac Hotel, Detroit, September 21, 22, 23, 24, 1936. It is anticipated that upwards of 2,000 will register. Get your hotel reservations now.

* * *

The Brief "Who Wants Socialized or State Medicine!" will be presented to the Executive Committee of The Council for final approval and dissemination in April. A copy will be sent to every member of the Michigan medical profession.

* * *

As of March 13, the SERA case loss for Michigan was 77,611, compared to 74,351 as of February 14, and 69,000 cases in January; the total on WPA as of March 13 was 102,367, compared to 96,610 on February 21, and 101,000 cases in January.

* * *

When you take care of a crippled or an afflicted child, you are not alone being paid a greatly reduced fee, but you are potentially liable for a malpractice suit. Read Pepke versus the Grace Hospital, 130 Michigan 493 (90 N. W. 278), or Downes versus Harper Hospital, 101 Michigan 565 (60 N. W. 42).

* * *

The Annual Meeting of the Michigan State Medical Society was last held in Detroit in 1928. Since that date meetings have been held as follows: 1929, Jackson; 1930, Benton Harbor; 1931, Pontiac; 1932, Kalamazoo; 1933, Grand Rapids; 1934, Battle Creek; 1935, Sault Ste. Marie.

* * *

Coroner's case: Recently, a Michigan physician was asked by an undertaker to sign a death certificate for a patient whom the physician had not seen for three years! The law states that unless the physician has been called within thirty-six hours prior to the patient's death, the case is a coroner's case.

* * *

County medical societies: Have you any new arrangements in your county for medical care of indigents, or medical care of border-line cases, or medical care of the low wage group? If so, inform the Michigan State Medical Society. Give the facts so that they may be published under county society news and also be integrated throughout other counties where applicable.

* * *

The list of advertisers is getting larger. These friends of yours—without whom THE JOURNAL could not be as large and as good as it is—know that you are reading THE JOURNAL. It is reflected in the new business coming their way. Won't you please tell them that you saw and read their particular messages in THE JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY?

GENERAL NEWS AND ANNOUNCEMENTS

July 20, 1936, is the deadline date for county medical societies which desire to invite the Michigan State Medical Society to hold its 1937 meeting in their community. The Constitution, Article 7, Section 1, states: "Any county society desiring the Annual Meeting shall file an application with The Council sixty days prior to an annual session." The annual session this year begins September 21, 1936.

* * *

Dr. James H. Means of Boston was chosen president-elect of the American College of Physicians at the annual meeting in Detroit. Two Michigan physicians were also honored by the nominating committee. They were Dr. James D. Bruce of Ann Arbor, made a member of the Board of Regents, and Dr. Henry R. Carstens of Detroit, put on the Board of Governors.

* * *

A package of twenty-one booklets relative to state medicine, sickness insurance, and socialization of medicine is available to members of the Michigan State Medical Society and to laymen to whom they wish such literature mailed. Send names to 2020 Olds Tower, Lansing, and please indicate whether you desire your name to be mentioned in the letter accompanying the package.

* * *

Thirty-five probate judges of Michigan have written letters to the Michigan State Medical Society expressing opinions on the filter system organized by the Society to insure that state-supplied medical care be limited to those rightfully requiring it. The letters of the judges were highly complimentary and have encouraged the State Society to greater effort. With the approval of the individual probate judges, some of the various letters will be published in THE JOURNAL.

* * *

The **Washtenaw County Medical Society** distributes a monthly letter to members which includes the program of the month, the minutes of the last meeting, a message from either the President or the Secretary of the County Medical Society, and a blank space for notes on the meeting to be made by the member. This printed folder is organized by Dr. John V. Fopeano, Secretary, and materially aids the esprit de corps of this active medical society.

* * *

At the **American College of Physicians Convocation** held at the Hotel Book-Cadillac, Detroit, March 4, 181 candidates were admitted to fellowship. Of this number, the following are from Michigan: Franklin Walter Baske, Flint; Roy Herbert Holmes, Muskegon; Charles E. Lemmon, Detroit; Willard D. Mayer, Detroit; Elbert Smith Permenter, Alpena; Harold Riche Roehm, Birmingham; Harold Abraham Robinson, Detroit; Lufti Mustafa Sa'di, Detroit; and F. Janney Smith, Detroit.

* * *

The "Invitation to Exhibitors" was sent to prospective technical exhibitors on March 28, 1936. Any physician desiring to display a scientific exhibit at the 1936 Annual Meeting of the Michigan State Medical Society should write to the Scientific Exhibits Committee, Dr. C. T. Ekelund, Chairman, 906 Riker Building, Pontiac, Michigan.

Any physician knowing of a business house which desires to display in the technical exhibit should mail a postal card to the Executive Office, 2020 Olds Tower, Lansing. This will be highly appreciated.

* * *

The **Annual Clinic** of the Alumni of the Wayne University College of Medicine will be held on Wednesday and Thursday, June 17 and 18. The

program is as follows: *Wednesday, June 17*—8 to 12: Lectures and Clinics at the College Auditorium; 2 to 6: Entertainment—possibly a boat ride; 7 P. M. Class Reunions. *Thursday, June 18*—8 to 12: Operative Clinics, Medical Ward walks, and Clinical Programs at the various hospitals; 2 P. M. Commencement with other Colleges of Wayne University.

* * *

A **monthly communication**, to members only, is sent out by one or two of the county medical societies of Michigan. This mimeographed sheet contains information which should be known to the members of the county medical society, but is of such a nature that it can not be published in the bulletin of the county medical society, which has general circulation (for example, the suspension of a physician from membership). Such monthly reports stimulate interest in the society, and might well be used by most of the fifty-three county societies of Michigan. The cost would be very small. Returns are great.

* * *

The **fifteenth annual series of lectures** held by the Beaumont Foundation of the Wayne County Medical Society were given at the Detroit Institute of Arts on March 23 and 24. The lecturer was Dr. Charles A. Doan, Professor of Medicine and Director of the Department of Medical and Surgical Research of the Ohio State University College of Medicine. The general subject was "Clinical Implications of Modern Physiologic and Hematology." It has been the custom for several years to publish these lectures in this JOURNAL. This custom will be followed this year so that the lectures will appear in the June and July numbers.

* * *

Judge R. T. Hudson, president of the State Bar of Michigan, appointed on March 16, five lawyers to act as a liaison committee with a similar committee from the Michigan State Medical Society. Mr. Miles Knowles of Highland Park is chairman. Other members of the committee are Mr. Herbert V. Barbour of Detroit, George D. Clapperton of Grand Rapids, Francis J. Shields of Powell, Claude W. Coates of Sault Ste. Marie. The physicians on the Michigan State Medical Society Committee are Dr. A. F. Jennings of Detroit, Dr. C. W. Brainard of Battle Creek, Dr. R. H. Denham of Grand Rapids, Dr. H. H. Cummings of Ann Arbor, and Dr. C. S. Kennedy of Detroit.

* * *

"**Authorization of Physical Examinations, Treatment, Operations and Autopsies**" is an excellent little booklet prepared by Dr. William C. Woodward of the American Medical Association, Bureau of Legal Medicine. It contains twenty-two pages. It discusses what constitutes lawful authority for making physical examination of a patient, or for performing an operation, or applying vaccine, splints, roentgen rays, or drugs, or performing an autopsy. Copies may be procured for ten cents by writing the American Medical Association, 535 North Dearborn Street, Chicago.

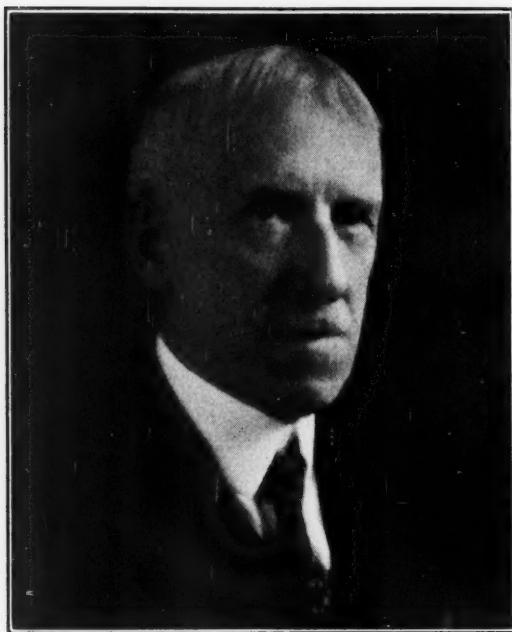
* * *

Medical Symphony Orchestra: Michigan can boast one of the most complete, if not the largest medical symphony orchestras in the United States. The Wayne County Medical Society group comprises fifty-three pieces, with every type of instrument represented. Its annual concert was given in the Detroit Institute of Arts Auditorium on March 30, 1936. In addition to the orchestra, the Wayne County Medical Society Glee Club presented a concert of choice presentations. The whole program was carried out with professional finesse, a fitting climax to a year of constant practice and effort on the part of these Detroit physicians. Congratulations!

GENERAL NEWS AND ANNOUNCEMENTS

Dr. Biddle Honored

Dr. Andrew P. Biddle of Detroit was tendered a complimentary banquet April 1st at the Hotel Book-Cadillac by the Wayne County Medical Society and the Detroit Dermatological Society. Dr. Biddle is one of the best known physicians in the state of Michigan. He has been president of the Michigan



DR. ANDREW P. BIDDLE

State Medical Society, also president of the Detroit Academy of Medicine and Fellow of the American College of Physicians. He was the first president of the Detroit Dermatological Society. In 1925, he was elected president of the American Dermatological Society. Dr. Biddle, in addition to his professional attainments, has been very active in civic affairs of Detroit and Wayne County. He was a member of the Detroit Board of Education from 1917 to 1925 and for the past six years has been a member of the Detroit Library Commission. He also served six years on the Michigan State Board of Health following an appointment by the late Governor Ferris.

Dr. Biddle, Dr. Angus McLean and Dr. Don M. Campbell in 1891 began an association which lasted for eighteen years in an office building located where the Penobscot Building now stands. Then the three located in the David Whitney Building when popularity and prestige called for greater accommodations. As the years passed, many other friends were made, two of whom, ex-Governor Fred W. Green and Dr. Leo M. Franklin, responded respectively to the toasts "Courage in the Army Medical Officer" and "Culture in the Education of a Physician." John W. Smith, representing the city, paid his respects to the honored guest.

Dr. Biddle is in the true sense a scion of a pioneer family. His grandfather came to Detroit in 1823 when he was appointed Registrar of the United States Land Office for this district. He was Detroit's mayor in 1827 and 1829. He was president of the first constitutional convention in Michigan in 1825. Dr. Biddle's father, a graduate of the Harvard Law School, raised and drilled Union troops in the Civil War. Two of Dr. Biddle's brothers went to West Point.

Dr. Biddle has not only been honored by the medical profession but also by Wayne University and the University of Michigan. He has been the recipient of the honorary degree of D.Sc. from Wayne University and M.A. from the University of Michigan.*

He graduated from the Detroit College of Medicine in 1886. After many years of service as Professor of Dermatology, he was made Emeritus Professor. He is at present consultant to Receiving Hospital, St. Mary's Hospital, Woman's Hospital, Children's Hospital, St. Joseph's Mercy Hospital, to the Protestant Children's Home and the Detroit Board of Health. Dr. Biddle was honored by the Michigan State Medical Society at its annual meeting at Sault Ste. Marie in the establishment of the Andrew P. Biddle lecture, which is to be an annual event.

* * *

"Michigan State Medical Society Night" was celebrated by the Washtenaw County Medical Society on March 10, 1936. President Grover C. Penberthy of the Michigan State Medical Society presented "A Ten Point Plan for the State Society"; Secretary C. T. Ekelund talked on "Our Changing Medical Practice"; the Chairman of the State Society's Public Relations Committee, Dr. L. Fernald Foster, spoke on "The Operation of Medical Filter Boards." A large and enthusiastic attendance greeted these officers of the State Society. A full report will be printed in the news notes from Washtenaw in the May issue of THE JOURNAL.

* * *

A total of 506,719 persons viewed the medical exhibit at the "Little World's Fair" in Detroit during the week of March 8! The Wayne County Medical Society utilized 500 square feet to demonstrate various phases of preventive and curative medicine. From the moment the exhibit hall opened each afternoon to the actual extinguishing of the lights at midnight, a long queue of people pressed to enter the WCMS booth. The Exhibits Committee of this County Society deserves great congratulation for this unusual work of education. It should inspire other county medical societies to similar endeavor. The public is begging for medical information. It is the profession's duty to provide it. It can best be done through the county medical society.

* * *

Dr. J. W. Hauxhurst of Bay City, Michigan, who has been a member of the Bay County Medical Society and the Michigan State Medical Society for fifty years, was recently recommended by The Council for Honorary Membership in the Michigan State Medical Society. Upon hearing of this proposed honor, Dr. Hauxhurst, who is eighty-eight years old, immediately demurred to the Secretary of his County Medical Society, saying that he was too young to be "retired" into Honorary Membership and that he wished to continue as an active member of his Medical Society. In notifying the State Society, the County Secretary stated that Dr. Hauxhurst has not missed a meeting of the County Medical Society in twenty-five years. When Dr. Hauxhurst was notified by the State Society that he was still very much an active member, he replied: "I am sure if I were only an honorary member of our Society I would not feel attracted to its meetings. I do derive much benefit and pleas-

*In this connection the reader is referred to the editorial "Getting Along by Degrees," volume 34, page 673, MICHIGAN STATE MEDICAL JOURNAL, in which this JOURNAL paid its compliments to Dr. Biddle.

ure from the meetings and the personal contact with the membership, and I am moved to think afterwards on subjects read and discussed which otherwise would lie dead to me. If my ability to continue on this path will permit, such is my decision, and the terminal will be reached when I am ripe for the harvest."

* * *

"Michigan State Medical Society Night" at Flint, February 19

The Genesee County Medical Society arranged a "Michigan State Medical Society Night" at the Dresden Hotel, Flint, on Wednesday, February 19, 1936. Dinner was served at 6:30, followed by a program of addresses by the guests.

Dr. R. D. Scott, president of the Genesee County Medical Society, introduced the toastmaster, Dr. F. E. Reeder, speaker of the House of Delegates of the Michigan State Medical Society. He presented Dr. L. Fernald Foster of Bay City, chairman of the Public Relations Committee of the State Society, who defined "integration." Dr. C. T. Ekelund, Pontiac, Secretary of the State Society, spoke on "What Price Socialism." Dr. Grover C. Penberthy, Detroit, president of the State Society, gave "The State Society's Five Year Program." Dr. Henry Cook, Flint, chairman of The Council, spoke on "The 'Busyness' of the Michigan State Medical Society." Mr. Wm. J. Burns, Executive Secretary of the State Society, discussed "What Can a County Society Do to Solve Its Own Problems?"

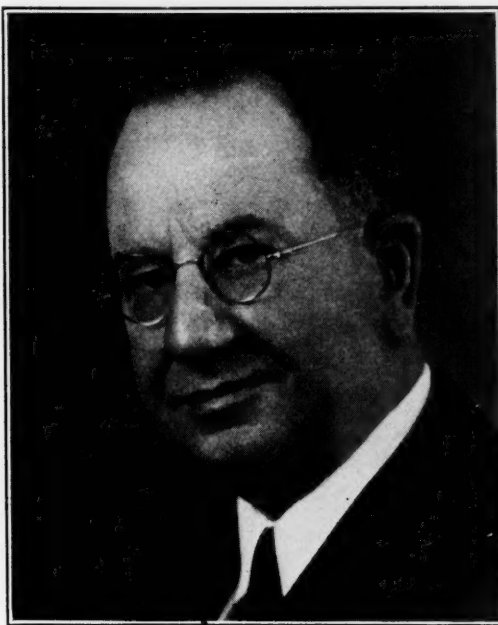
Judge Frank L. McAvinchey, Probate Judge of Genesee County, presented "The Opportunities in Medical Practice," which was received with such enthusiasm that the speaker was elected an Honorary Member of the Genesee County Medical Society.

Among the 126 present at this memorable affair were: Drs. H. M. Best of Lapeer, D. J. O'Brien of Lapeer, D. Tarter and W. G. Gamble of Bay City, W. E. Ward and I. W. Greene of Owosso, H. Graham of Mt. Morris, L. A. Farnham of Pontiac, B. R. Sleeman of Linden, Roy Herbert Holmes of Muskegon, James Houston of Swartz Creek, F. L. Covert of Gaines; E. P. Trobert, Attorney; O. B. Pike, Credit Manager; M. S. Van Geison, M. C. Beesher, B. A. Schuff, S. S. Gorne, D. F. Peaver, Geo. E. Anthony, Allen E. Brunson, F. E. Ludwig, Gayle Spann, V. E. Linden, J. Finkelstein; C. Man-kinern of Ashtabula, Ohio, and R. B. Daig of Flint; Drs. C. P. Clark, R. G. Pett, C. W. Colwell, S. I. Foley, R. S. Morrish, G. R. Backus, D. R. Wright, J. C. Benson, G. C. Matthewson, R. G. Brain, James A. Olson, O. C. Pratz, F. H. Steinman, W. H. Winchester, J. W. Handy, Herman G. Rosenblum, L. A. Lambert, C. E. Walden, L. Shantz, C. K. Stroup, M. S. Chambers, L. L. Willoughby, R. M. Bradley, G. L. Willoughby, W. B. Hubbard, W. H. Marshall, A. S. Weelock, F. B. Miner, A. H. Kretchmar, R. W. MacGregor, Geo. D. Sutton, G. H. Bahlman, S. Conover, D. M. MacGregor, S. T. Flynn, J. A. Spencer, Otto Preston, Max Burnell, B. E. Burnell, D. L. Treat, E. A. Irvine, Harold Woughter, R. A. Stephenson, F. W. Baske, G. V. Conover, H. H. Hiscock, A. Thompson, W. W. Stephenson, Joseph A. Macksood, Robert Gregg, V. Richeson, D. C. Smith, E. Rumer, H. Jefferson, S. S. Sorkin, H. M. Golden, D. R. Wark, J. W. Evers, D. C. Adams, H. F. Grover, F. A. Roberts, F. W. Bald, C. J. Scavarda, C. C. Probert, H. Marsh, T. N. Wills, A. T. Bonathan, C. H. O'Neil, James A. Rowley, Herbert White, I. D. Odle, B. W. Malfroid, R. W. Streat, A. J. Reynolds, Geo. R. Goering, V. H. Morrissey, A. C. Blakeley, E. D. Rice, and Bernard F. Corbett, all of Flint.

APRIL, 1936

Dr. Barstow, Councillor of the Eighth District

Dr. W. E. Barstow of St. Louis, Michigan, was appointed by President Grover Penberthy as councillor of the eighth district to fill out the unexpired term of Dr. Julius Powers of Saginaw, who has resigned after a number of years as a member of the council of the Michigan State Medical Society



DR. W. E. BARSTOW

and as president of the council and executive committee.

Dr. Barstow was born in Gratiot County, Michigan, in 1877. He received his early education in Ithaca High School and later attended and graduated from the University of Michigan Medical School in 1905. During his senior year at the University, he was on the student staff of Dr. Walter Parker. Since his graduation 31 years ago, he has practiced his profession in St. Louis, Michigan. He was associated with Dr. Brainard as first assistant surgeon in Brainard's Hospital from 1910 to 1920. He has been a member of the Michigan State Medical Society for thirty years, secretary of the county society for two years and president of the county society for two terms. He is a member of the staff of St. Mary's Hospital, Saginaw, and vice president of the staff of the R. B. Smith Memorial Hospital at Alma. Dr. Barstow takes the position of councillor of the Michigan State Medical Society after a prolonged and active experience in the county medical society. Both state society and Dr. Barstow are to be congratulated on the appointment which will mean to Dr. Barstow a wider field of service and to the Michigan State Medical Society an active and aggressive worker in succession to Dr. Powers, who has also given of his time and ability unstintingly in the interests of the profession.

* * *

The filter system of the Michigan State Medical Society is still making many friends for physicians in various counties. Probate judges and poor commissioners are writing glowing accounts of the splendid coöperative work of their physicians in the county medical societies, and how the filter program is cutting cases to those needing medical service, and saving money for the state and counties.

GENERAL NEWS AND ANNOUNCEMENTS

Judge Clair R. Black of Saint Clair County, Port Huron, writes a typical letter of satisfaction and congratulation for the medical profession's work in this emergency:

Dr. L. Fernald Foster,
Michigan State Medical Society,
2020 Olds Tower,
Lansing, Michigan.

Dear Doctor:

I have your letter of March 12 in reference to the filter system and answer your questions as follows:

- (1) The medical profession in this county is coöperating fully.
- (2) The hospitals are coöperating fully.
- (3) The problems that have arisen in this county have been taken care of by the members of the local medical profession.
- (4) Both the medical and financial filter system are working out in splendid shape.

The filter system is doing wonders in this country! Although we can not tell at this time the actual amount of money saved as a county during the last three months, and will not know until April, I know we are making a great saving. Many people who would have asked the county for medical aid are now going back to their family doctor. Up to the present time we are quite satisfied with the filter system.

Very truly yours,
(Signed) CLAIR R. BLACK,
Judge of Probate.

March 18, 1936.

* * *

New Medical Dean

The Medical Department of Wayne University, Detroit, is to have a new, full time dean in the person of Dr. Raymond B. Allen, associate dean of Columbia University Medical School. The appointment was made by the Detroit Board of Education on March 11. Dr. Allen's salary will be \$8,500. The appointment takes place May 18th. Former dean, Dr. William H. McCracken, resigned in June, 1935, owing to ill health. Dr. William J. Stapleton Jr. of Detroit was appointed acting dean until a successor to Dr. McCracken might be appointed. Dr. Stapleton has given entire satisfaction to the college as well as to the Board of Education. He will hold the position of associate dean.

Dr. Allen graduated from the University of Minnesota Medical School in 1928. After a short time in practice at Minot, North Dakota, he entered the Mayo Clinic at Rochester on a fellowship and was awarded a Ph.D. in urology in 1934. He went to Columbia the same year, where he was made associate dean in charge of graduate studies. He was also associate director of the New York Post Graduate Medical School and hospital of the Columbia University.

* * *

American Medical Golfers Play in Kansas City, Monday, May 11

The American Medical Golfing Association will hold its twenty-second annual tournament at the Mission Hills Country Club and the Kansas City Country Club in Kansas City on Monday, May 11, 1936.

To accommodate comfortably the large entry which is anticipated, the Kansas City Committee has arranged play over two very fine courses which touch corners: the Mission Hills Country Club and the Kansas City Country Club. Their club houses are only one mile apart and ample transportation between the two has been arranged. Dinner for all players will be served in the Mission Hills Club House.

Seventy Trophies and Prizes

Thirty-six holes of golf will be played in competition for the seventy trophies and prizes in the nine events. Trophies will be awarded for the Association Championship, thirty-six holes gross, The Will Walter Trophy; the Association Handicap

Championship, thirty-six holes net, The Detroit Trophy; the Championship Flight, First Gross, thirty-six holes, The St. Louis Trophy; the Championship Flight, First Net, thirty-six holes, The President's Trophy; the Eighteen Hole Championship, The Golden State Trophy; the Eighteen Hole Handicap Championship, The Ben Thomas Trophy; the Maturity Event, limited to Fellows over 60 years of age, The Minneapolis Trophy; the Oldguard Championship, limited to competition of past presidents, The Wendell Phillips Trophy; and the Kickers Handicap, The Wisconsin Trophy. Other events and prizes will be announced at the first tee.

1,150 A. M. G. A. Members in Every State of the Union

Dr. M. M. Cullom of Nashville, Tennessee, is president and Dr. W. Albert Cook of Tulsa, Oklahoma, and Dr. Walt P. Conaway of Atlantic City are vice presidents of the American Medical Golfing Association, which was organized in 1915 by Dr. Will Walter, Dr. Wendell Phillips and Dr. Gene Lewis, and now totals 1,150 members, representing every state in the union. The living past presidents include Dr. Thomas Hubbard of Toledo, Dr. Fred Bailey of St. Louis, Dr. Edward Martin of Media, Pennsylvania, Dr. Robert Moss of LaGrange, Texas, Dr. Charlton Wallace of New York, Dr. Will Walter of Chicago and Charlottesville, Virginia, Dr. James Eaves of Oakland, California, Dr. Chester Brown of Danbury, Connecticut, Dr. Samuel Childs of Denver, Dr. W. D. Shelden of Rochester, Minnesota, Dr. Walter Schaller of San Francisco, Dr. Edwin Zabriskie of New York, Dr. Frank A. Kelly of Detroit, Dr. John Welsh Croskey of Philadelphia, Dr. Homer K. Nicoll of Chicago, and Dr. Charles Lukens of Toledo.

Kansas City Golf Committee

The Kansas City Committee is under the general chairmanship of Dr. Clarence Capell, Rialto Building, Kansas City, Missouri. He will be assisted by Drs. A. W. McAlester, Jr., Logan Clendenning, and A. C. Griffith, on Entertainment; Drs. A. E. Jones, E. R. DeWeese, C. A. McGuire, D. A. Williams, Cliff Mullen, Lewis Allen, and Harold Roberts, on Prizes; Dr. A. S. Welch on Publicity; Drs. T. A. Kyner, J. S. Snyder, Clarence Sanders, on Transportation; Drs. C. D. Cantrell and J. Q. Chambers, on Scoring; Drs. Chas. C. Dennis and Kip Robinson, on Starting.

Application for Membership

All male Fellows of the American Medical Association are eligible and cordially invited to become members of the A. M. G. A. Write the Executive Secretary, Bill Burns, 722 W. Lenawee Street, Lansing, Michigan, for an application blank. Participants in the A. M. G. A. Tournament are required to furnish their home club handicap, signed by the secretary. No handicap over 30 is allowed, except in the Kickers' (Blind Bogey). Only active members of the A. M. G. A. may compete for prizes. No trophy is awarded a Fellow who is absent from the annual dinner.

The twenty-second tournament of the American Medical Golfing Association promises to be a happy affair. The officers anticipate that some two hundred medical golfers from all parts of the United States will play in Kansas City on May 11.



Physicians and Probate Judges Meet in Bay City

The Bay County Medical Society and its Public Relations Committee successfully conducted a meeting with governmental officials at the Wenonah Hotel, Bay City, on Friday, February 28, 1936.

The County Medical Society invited some seventeen probate judges and a number of county poor commissioners and others connected with some phase of the filter system developed by the Michigan State Medical Society in connection with medical care of afflicted and crippled children under Michigan Acts No. 236 and 274. Among those who attended this joint meeting were Judges Date J. LaGoe of Midland County, H. Walter Cooper of Tuscola County, Charles E. Moore of Crawford County, Frank L. McAvinchey of Genesee County, Geo. A. Cuyler of Alcona County, Roy J. Crandell of Arenac County, D. J. Kavanagh of Bay County; Commissioners E. S. Sias of Midland County, John R. Cotter of Bay County, P. B. Johnson of Bay County, and Geo. J. Laetz of Bay County; Dr. A. R. Miller, Mayor of Harrisville, Alcona County, Mr. O. K. Schuman of Crawford County; Doctors Henry Cook of Genesee County, G. L. McKillop of Otsego County; Mr. Wm. J. Burns, Executive Secretary of the Michigan State Medical Society, and Dr. C. R. Keyport of Crawford County.

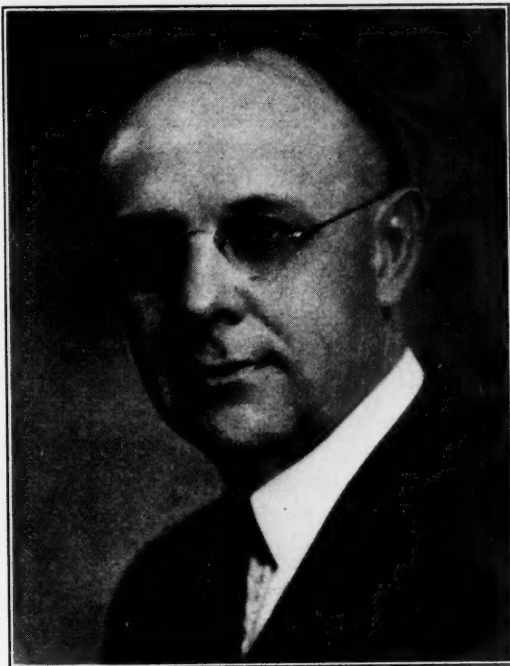
Dr. Cook and Judge McAvinchey Speak

Dr. M. C. Miller, Auburn, President of the Bay County Medical Society, turned the meeting over to Dr. R. C. Perkins, Chairman of the local Public Relations Committee, who explained that this conference was for the purpose of ironing out any difficulties or misunderstandings in connection with the filter system and for the discussion of possible weak spots in the program. Dr. Perkins called upon Dr. Henry Cook of Flint, Chairman of The Council of the Michigan State Medical Society, who outlined the movement from its inception on October 30, 1935; upon William J. Burns, Executive Secretary of the Michigan State Medical Society, who reported on the progress to date of the filter system; and upon Judge Frank L. McAvinchey of Genesee County, who stated at the outset that this program had resulted in two important accomplishments: recognition by State officials of the Probate Judges Association and of the Michigan State Medical Society. He reported on the excellent results in various counties where the filter has been working, and stated that *the filter system will have saved the State of Michigan approximately \$600,000 this year as the number of commitments have been reduced materially and the expenses about 50%.* Judge McAvinchey read letters from the various probate judges of Michigan, giving their frank comments on the program. He urged the county medical societies to keep close contact with their probate judges, and in turn asked the probate judges to wait on the physicians of their various districts. *He suggested that filter committees make reports to the probate judge after each meeting of the committee, giving a short report, a diagnosis in plain English, and recommendations on each case.* He appealed to both groups for coöperation and perfect understanding, to make the whole program more efficient and economical, or otherwise an effort might be made by certain politicians to change the laws and throw the expense from the State on to the poverty-stricken counties.

Judges LaGoe, Cooper, Kavanagh, Moore, Crandell, and Cuyler were called upon and gave their viewpoint relative to the filter system. Others who spoke were O. K. Schuman, publisher of Grayling, Mr. E. S. Sias, Mr. Geo. J. Laetz, Drs. C. R. Keyport and P. R. Urmston and L. Fernald Foster.

Joint Work of Judges and Physicians Required

Dr. Cook closed the meeting by stating that if and when the Schedules A, B, C, and D are reinstated as of April 1, 1936, according to the resolution of the Crippled Children Commission, the coöperation of the judges and the medical profession will be necessary to keep the load down. Success depends upon the tightness of the system with all cases being filtered. He recommended that the next integration program of the Public Relations Committee should be a post payment system adopted by the individual practitioner to help the people to be self-sustaining.



DR. JULIUS POWERS of Saginaw

Dr. Powers has resigned as councillor of the eighth councillor district after a number of years of valuable service to the Society. He was chairman of the Council during 1934-1935.

A Significant Appointment

There has been a noteworthy tendency of recent years for not only industrial but for pharmaceutical firms as well to engage in research in the departments of manufacture in which they are engaged. This tendency it is needless to say is commendable inasmuch as the consumer of the product is the beneficiary. The appointment of Dr. Albert L. Raymond as director of the research laboratory of G. D. Searle and Company of Chicago is announced. Dr. Raymond has been connected with the Rockefeller Institute of Medical Research for the past nine years. For two years he was a National Research Fellow working on the problems connected with the biological mechanism of carbohydrate degradation. Dr. Raymond holds the degree of Ph.D. from the California Institute of Technology. He is a member of the American Chemical Society and the American Society of Biological Chemists.

In an interview Dr. Raymond says: "I know of no field offering greater facilities for the practical application of biochemical research than the laboratory of a pharmaceutical house. Here we come in first hand contact with the problems of that working scientist, the practicing physician, and this is a great incentive to provide him with better chemical instruments with which to fight disease."

THE DOCTOR'S LIBRARY

Acknowledgment of all books received will be made in this column and this will be deemed by us a full compensation to those sending them. A selection will be made for review, as expedient.

THE 1935 YEAR BOOK OF NEUROLOGY, PSYCHIATRY AND ENDOCRINOLOGY. Neurology edited by Hans H. Reese, M.D., Professor of Neurology and Psychiatry, University of Wisconsin Medical School. Psychiatry edited by Harry A. Paskind, M.D., Assistant Professor of Nervous and Mental Diseases, Northwestern University Medical School; Attending Neurologist, Evanston Hospital; Associate Attending Neurologist, Michael Reese Hospital. Endocrinology edited by Elmer L. Sevringhaus, M.D., Associate Professor of Medicine, University of Wisconsin Medical School. The Year Book Publishers, Inc., 304 South Dearborn Street, Chicago. \$3.00.

The authors have included endocrinology, along with neurology and psychiatry in the 1935 Year Book. We have had occasion to review several of these Year Books on different subjects and have said that the standing of the various editors is a guarantee of the quality of the work. The same, it goes without saying, is true of the present volume. The reader will find a careful review of all important results of recent teaching of the various subjects. This work of over 750 pages embodies the latest research and teaching of the subjects under consideration. A comprehensive index renders the work extremely satisfactory as a book of reference.

A TEXTBOOK OF ROENTGENOLOGY, THE ROENTGEN RAY IN DIAGNOSIS AND TREATMENT. By Bede J. Michael Harrison, M.B., Ch.M., C.M.R.E. (Cantab.) F.A.C.R., Director of the Department of Roentgenology, Vancouver General Hospital, Roentgenologist to Vancouver Public Health Institute for Disease of the Chest. Pages, 826. Illustrated. Price \$10.00. Baltimore: William Wood and Company, 1936.

During the four decades since the discovery of the x-rays, there have been numerous books on various phases of diagnostic Roentgenology and Roentgen Therapy, many of them excellent. They have been for the most part books for the specialist. While the present work will be found of interest to the specialist, it is one for the internist, the surgeon and the general practitioner as well, inasmuch as it correlates the x-ray findings with pathology. It emphasizes the roentgenologist's position in the medical profession as a consultant. The specialist in roentgenology will find the work of particular value since it supplies a knowledge of gross pathology which is an essential part of his professional equipment. On the other hand, the internist, the surgeon and the general practitioner, by studying its pages, will be in a position to obtain the greatest help from the roentgenologist. Harrison's textbook contains chapters on x-ray physics, radiophysiology and biology, the purpose of which is to enable the reader to brush up on these essentials to an understanding of the subject of roentgenology and radiotherapy; the following chapters deal with regions of the body, their anatomy, physiology and pathology, particularly gross pathology, and then is given in detail the correlation of the roentgen findings with the under-

lying pathology. In this respect, the work is unique. It should be made clear that no attempt is made to provide anatomy, physiology and pathology in one volume. Only the anatomy, physiology and pathology of those parts that are altered in a gross way by disease are presented, inasmuch as roentgenology is concerned with changes that are visible to the eye. Hence such a work is possible without being voluminous. The book is admirably indexed and provided with an analytical table of contents. The author and the publisher are to be commended on producing a work for which there is a crying need. The jargon of the roentgenologist is interpreted in plain comprehensible terms to those who consult with him.

RECENT ADVANCES IN CARDIOLOGY. By Terence East, M.A., D.M., F.R.C.P., Physician, Kings College Hospital and Woolwich Memorial Hospital, and Curtis Bain, M.C., D.M., M.R.C.P., Physician, Harrogate General Hospital. Third Edition, with 14 plates and 85 text figures. Philadelphia: P. Blakiston's Son & Co., Inc., 1012 Walnut Street, 1936.

This is one of the "Recent Advances Series" of which there are about two dozen, which cover the recent advances in the various fields of medicine. The authors have, apparently, reviewed the recent literature covering cardiac diseases and, in this work, have, in their own language, discussed the subject-matter found in the late literature. Much of their discussion, however, covers knowledge that can not be regarded as recent. The book amounts to a concise discussion of cardiac and related diseases in the light of knowledge found in recent literature.

The many fine reproductions of electrocardiographs and of radiographs serve well to illustrate the points in their discussion. Throughout the book, as one would expect, there is a profuse bibliography.

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